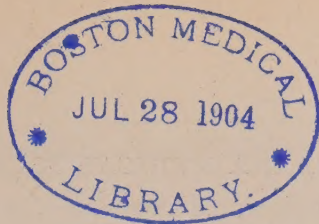


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ANNUAL ADDRESS OF THE PRESIDENT.*

By J. C. LeGrand, M. D.,

BIRMINGHAM, ALA.

Ex-Secretary and ex-President of the Calhoun County Medical Society;
ex-Vice-President of the Tri-State Medical Society of Tennessee, Alabama
and Georgia; ex-Vice-President of the American Medical Association;
Counsellor of the Medical Association of Alabama; Member
of the Southern Surgical and Gynecological Society;
Professor of Medical Jurisprudence and Hygiene
in the Birmingham Medical College.

Gentlemen of the Medical Association of Alabama: In obedience to the mandate of the Constitution of our Association, I have the honor, as your presiding officer, of submitting my message.

Meeting as we do in this historic city, the capital of our State, the home of culture, the workshop of genius, the laboratory in which so many renowned of our own and other professions have wrought, a place where so much of our commonwealth's history has been made; and gathered as we are in our thirty-third annual session with the glowing sunset of the century gilding with glory the mountain-top achievements attained by our profession may we not both feel and manifest a thrill of pride because of the impress which this Association has made upon the history of the State and the work it has done in behalf of the health and happiness of her people?

Devotees of other professions, followers of various trades and callings have accomplished much by banding themselves together, uniting their thought and energy in dignifying and strengthening their various pur-

*Delivered before the Medical Association of the State of Alabama, April 17th, 1900, at Montgomery, Ala.

suits. The lawyers, any two of whom have been likened unto the blades of a pair of scissors, cutting as if it were paper any luckless material that comes between, and yet friends to many penniless unfortunates, meet as we do, to enjoy themselves socially and to improve themselves professionally.

So with the teachers who educate the mind, the hatters who crown our heads, the tailors who make our clothes, the inimitable, irrepressible and ubiquitous drummers who cover the earth as waters cover the great deep, the minister of God in his particular church court, and the solemn undertaker who of right gets the last lick at man's poor, perished frame of dust.

These respective gatherings have been of incalculable benefit, and the long and rapid strides of progress that have been and are being made in almost every avocation are, in the main, due to the motive power generated by the assembling of those who represent common aims and common aspirations.

I dare say that no organization has been able to produce larger or more beneficial results in its particular sphere than this—results which have been so far-reaching in their effects as to be felt in every nook and corner of the State. The personnel and spirit of our profession have been improved and elevated, and the sanitary interests of the people have been protected to a high degree. This “touching of elbows” in our annual sessions has enabled “the word to go down the line,” as new theories have been evolved and their value confirmed by practical demonstration, and standard methods have been more usefully and widely applied than ever before.

Starting from the historic year, 1873, made historic by the adoption of our present Constitution, and making a careful and impartial review of the splendid work accomplished, reading the fervid appeals for unanimous co-operation on the part of the members of the profession throughout the State that have appeared in messages of my predecessors, is it not a wonder that there is to be found in the broad domain of the State a doctor willing to stand idly by when a cause so grand as that of the amelioration of human suffering calls for help. Yet, truth compels me to admit that there are many such. Rather would we expect that they all would rush to enlist under a banner whose folds are consecrated to purposes so lofty and noble as those embalmed in the Constitution of this Association.

May we not hope that these non-affiliating members of the profession will soon realize the responsibility that rests upon them, equally with ourselves to aid in the great cause of scientific medicine and sanitation, and that they will accept the cordial invitation to unite with us that always stands widely open to them?

In sharp and striking contrast with the indifference manifested by the non-affiliating doctors alluded to stands the record of achievements which the affiliating members can show both in this Association and in their respective country societies. The continued growth and influence of this Association are such as to furnish for wholesome pride to every member who appreciates the value of organized effort for the protection of the health and lives of the people.

I am glad to say that substantial indications of improvement exist in many of the county societies. The zeal and devotion exhibited by many members of their respective county societies entitle them not only to the warm approval of their own consciences, but to the highest commendation of this, the parent body. The attendance upon the meetings of many of these societies has been larger, the scientific work done has been broader and better than heretofore, and, equally important, the fraternal and social relations of the doctors have been purified and strengthened.

We may be pardoned for the mention of one county society especially, that of the lamented and Christian gentleman, Dr. Toole, once the President of this Association, and several times the president of his county society—an honor his county colleagues were always glad to bestow, because of his noble work in behalf of his profession and his people.

This good man has passed to his reward, which we feel assured is a bright and unfading one, but fortunately the surviving members of the Talladega County Medical Society are animated by the same spirit and zeal in behalf of organized medicine that always inspired him. Ambition for still further progress continues to fire the bosoms of the older members, which, united with the courage and capacity of the younger members, makes this society one of the brightest stars in the galaxy of the county societies in this State.

What has been said of the Talladega County Medical Society could, with equal truth, be said of many or all of the other county societies, if their respective members would but devote to them the best work of which they are capable. That upon the vitality and efficiency of the county societies depend the solidity and prosperity of the State Association is a proposition so important and so true that it can afford to be repeated many times when we meet in annual session to take counsel together for the future. It is well and wise, therefore, that these pillars be broadened and strengthened, in order that the superstructure of this Association may be solid and symmetrical, and may rise to proportions that challenge general and just admiration.

Let us pause at this point to inquire whether our system of organization needs to be modified or changed in any essential particular?

The system now has behind it twenty-seven years of practical application, time ample, it is believed, to test its coherency and permanency,

That it has firmly withstood this long test and is growing stronger and stronger is a proposition that cannot be successfully denied. Did time permit, it would be easy to point to numerous and substantial fruits as tangible evidences of the wisdom of the system. Overlooking the broad benefits that have grown out of our system and concentrating their vision upon one or two alleged evils, some of our members are continually clamoring for change. The alleged evils are, we believe, greatly magnified, but admitting their existence, they are insignificant when compared with the benefits that accrue from our system.

Some resolutions, recently adopted by the Jefferson County Medical Society, and which doubtless will be brought to your consideration by the delegates from that society, furnish a renewed instance of the clamor to which I allude. The resolutions read as follows:

"Resolved, That it is the sense of this society that the present method of conducting the examinations of applicants for the practice of medicine in Alabama is inefficient, and that we strongly urge that this society should instruct its representatives to the next meeting of the State Medical Association to bring this question before the Association and advise legislation that would correct existing inefficiency in the law.

"It is further resolved, That it is the sense of this society that no member of an examining board should be in any way connected with a medical school."

Entertaining opposite views from those embodied in the resolutions, and with unshaken faith in our present system, if faithfully and honestly carried out, I am forced to declare the opinion that if the resolutions in question should be concurred in by this Association, a serious and perhaps fatal blow would be struck at the existence of our present complete public health system in many of the counties in the State.

We believe it to be the duty of every member of our organization in the State to endeavor to remove any defect that may exist in the practical application of our present system, but we do most earnestly appeal to you not to be led into the support of any measure that has for its object the overthrow of any of the essential features of that system.

The people of the State are to be warmly congratulated upon their escape from an epidemic of yellow fever during the past summer.

No disease to which our people are liable creates more panic, or is in danger of disturbing commerce more than this, hence the value of protection from an invasion by it is incalculable.

For two summers in succession Alabama has been protected, while several of her neighboring Gulf States have suffered invasion, with all of its attendant evils and losses. Such protection cannot be otherwise than a splendid tribute to both the quarantine system of the State and to its successful administration.

Every one knows that an epidemic of yellow fever means much sickness, many deaths, and a destructive paralysis of commerce.

As has been said, Alabama has been protected from the ruinous evils for the past two summers by the timely and judicious administration of quarantine. Further, I learn that protection was afforded at wonderfully small cost, only thirty-six hundred (3,600) dollars having been expended for State quarantine in 1898, and about six thousand dollars (\$6,000) in 1899. These amounts are believed to be insignificant when compared with amounts expended by other Gulf States in fruitless attempts to purchase protection. Economy of expenditure is evidently one of the distinguishing characteristics of Alabama's quarantine system.

While rejoicing over our escape from a visitation by yellow fever, I regret to say that smallpox continues to abide with us. This loathsome and preventible disease has prevailed to a greater or less extent in the State for several years, and unless additional legislation be provided for its control, it will remain with us indefinitely.

At the last session of the General Assembly, earnest but fruitless efforts were made to procure this needed legislation. If statistics are to be relied upon, the value of vaccination as a preventive of smallpox is as firmly established as any other scientific fact in medicine, and to deny it is to convict oneself of gross ignorance or blind prejudice.

The physicians of the State being agreed as to the scientific principle that underlies vaccination, we submit that any recommendations that they may make for the purpose of exterminating smallpox should be accepted by the law-makers of the State as furnishing the best possible guide and basis for legislation.

Vaccination whenever enforced has never failed to exterminate smallpox, and we believe never will. The conditions that now confront us, with reference to this disease, are serious and demand the application of the most vigorous and radical measures.

I recommend, therefore, that the effort to secure the enactment of a law of compulsory vaccination, with such other legislation as may be needed in that connection, be renewed at the next session of the General Assembly, with the hope that it will prove more successful than before.

While speaking of the public health of the State, it affords me pleasure to testify to the vigilance and efficiency with which the State Health Officer, Dr. W. H. Saunders, has discharged the onerous and responsible duties that devolve upon him. To his prompt and vigorous administration of State quarantine, together with the aid received from local boards and quarantine officials, is due the protection of the State from yellow fever for the past two summers; and to his activity and personal efforts in the counties in which smallpox has appeared is largely due the fact that this disease has been held in check. His efforts to obtain needed leg-

islation from the last General Assembly for the better protection of the public health were earnest and untiring, and if renewed before the next Assembly, will, it is hoped, be followed by greater success.

We have reason to believe that the importance of collecting vital and mortuary statistics in our State is being more and more appreciated, and that the work is being more effectively carried out than at any time in the history of the Association. Those whose special duty it is to do this work should be zealous, systematic and earnest effort endeavor to make it a complete success.

Alabama has nothing to lose and much to gain by publishing her health statistics to the world. If official figures can be made to proclaim the healthfulness and salubrity of her climate, capital and labor will seek her mines, her forests, and her fields more than ever before, and the present tide of prosperity will swell into a steady, permanent and majestic stream.

The law of the State makes it compulsory for all contagious and infectious disease to be reported by the health authorities. Typhoid fever should be placed on the list of diseases to be so reported, in order that investigation might be made as to the conditions producing the disease, and such action taken as might prevent its spread.

In this connection, your attention is called to an able and instructive report of an outbreak of typhoid fever at Riverton, in this State, by Dr. McWhorter which report, accompanied by a well-known map, appeared in the last volume of transactions of this Association. The lessons so forcibly expressed therein are very valuable, and will amply repay you for re-reading the report. In the light of what is there so clearly established, as well as from other sources, as to the causation of typhoid fever, I recommend that the Association adopt such measures as will require the physicians throughout the State to report to their respective county health officers every case of typhoid fever that may come under their observation.

To my mind, the medical profession owes no higher duty to the people than that of studying and ferreting out the causes that destroy health, dethrone reason, and impair the physical functions. Statistics have shown, over and over again, that the excessive use of alcohol has done more perhaps than any other agent in producing disease. Recognizing the great injury which this seductive, but stupendous evil, has inflicted, and the misery and poverty which have resulted therefrom, the question arises: Can we, as physicians, accomplish anything by advising the people and the law-makers of the State on the subject?

It is claimed that neither prohibition, nor the dispensary system, reaches the core of the evil and eradicates it. To what remedy, then, shall we turn for complete and permanent relief? As civilization ad-

vances and moral convictions deepen, we may expect marked improvement.

Education, then, is the great reforming force that must reach and remove the evil. Let it be judiciously and radically applied through every channel that can impress the minds and touch the hearts of the people.

Just as the virgin soil is the one into which roots strike deepest and take firmest hold, so, young minds constitute the most favorable soil in which to sow the seeds of truth and temperance.

A text book, containing clear, concise and just accounts of the evil effects of the excessive use of alcohol upon man's physical, moral and mental nature, should belong to the curriculum of our common schools, and every child should be required to become familiar with its teachings. Good seed of this kind planted in the minds of the children of the land would soon bud into convictions and resolutions that in due time would bear the fruit of the highest types, of physical, mental and moral manhood.

In this work of education the doctors should bear a conspicuous part. They are brought face to face with the wretchedness, the poverty and the depravity which intemperance entails, and therefore should wage relentless war on it with every weapon they can wield. They may teach by lectures and by admonition, but, above and better than all, by example, a force which though dumb and speechless, is far more potent than words, however, well chosen or warmly spoken.

In all their meetings, the doctors should boldly proclaim their advocacy of all feasible methods for abating the evils of intemperance, and thus openly ally themselves with a cause entitled to their warmest and most active support.

But to work out reform in the ways mentioned, would necessarily be a slow process, and therefore its fullest benefits would lie in the distant future.

What shall be done to rescue the victims of today—men who have so lost their moral courage as to render themselves powerless to throw off the thralldom of debauchery and vice which enslaves them?

These men cannot wait for the slow process of reformation already mentioned; a friendly hand must be held out to them while there is yet time to save them.

A sanitarium for the treatment of such cases, supported by the State, would, in my opinion, be the means of rescuing many victims from the mastery of intemperance and of placing them upon the solid ground of self-control. To maintain such an institution would be a just and judicious use of the people's resources, and would be the means of sending joy and gladness into households where now hover poverty, ignorance and misery.

But this question is too broad to admit of adequate discussion within the limits of an address such as this. Therefore, I commit it to your thoughtful consideration, with the hope that you will ever stand ready not only to support measures that promise reform, but that you will evolve such measures and become leaders in carrying them into successful execution.

The communicability of tuberculosis is rapidly becoming an established doctrine.

Experimental investigation and clinical observation have furnished so much scientific and practical testimony in support of this idea, that sanitarians are insisting that measures be enforced for the purpose of limiting, as far as possible, the propagation of the disease through this channel. That is to say, isolation of persons laboring under tuberculosis is now regarded as a sanitary measure which the protection of the unaffected loudly demands.

Among the convicts of Alabama tuberculosis is a frequent and fatal disease.

In the light of the advanced ideas as to the propagation, it is obviously improper, yea criminal, to place tuberculous and non-tuberculous convicts in the same prison.

It must not be forgotten that convicts are human beings, and being deprived of their liberty, and therefore of the privilege of protecting themselves, they are on that account the more entitled to all of the protection which science and humane treatment can throw around them.

In furtherance of the ideas expressed, I recommend that this matter be brought to the attention of the Governor and the Board of Convict Commissioners, coupled with the request that provision be made for separating in the prisons of Alabama the tuberculous from the non-tuberculous convicts.

There is a class of unfortunate persons for whom the State makes no provision; neither are private hospitals provided for them in Alabama. I refer to epileptics—a class of afflicted persons who certainly deserve consideration and care.

Dr. Spratling, Superintendent of the Craig Colony for Epileptics of Sonoma, N. Y., recently read a paper on the care of epileptics before the Jefferson County Medical Society, in which he advocated that a "Colony" should be established by each State, for the care and treatment of this class of unfortunates. With our growing population, and with the development of our rich resources now rapidly taking place, the revenues of the State will certainly become largely increased in the near future, and, therefore, will justify more liberal appropriations than have been made in the past for the sick and afflicted.

Dr. Spratling has well said that "what New York and Massachusetts

have done on a large scale, other States can do in proportion to their strength and ability."

Our State has provided liberally for her insane, for her deaf, dumb and blind.

Will she utterly neglect her epileptics—a class of persons often incapable of taking care of themselves, and who not infrequently fall as heavy burdens upon friends who are unable to properly provide for them?

I recommend that this Association take such action as will present the claims of this class of unfortunate persons to the next General Assembly, with the hope that some steps may be taken toward making provision for them.

In recent years attempts have been made to morbidly excite the public mind as to the horrors and cruelties of experimentation upon animals for specific purposes.

Doctors know and appreciate the value of vivisection, and, therefore, should antagonize to the utmost all efforts on the part of over-sensitive people to render it illegal for animals to be utilized in developing great scientific, pathological and therapeutic principles.

Dr. Keen the President of the American Medical Association, has issued a very stirring address on this subject to the medical profession of the country, from which I beg to quote as follows:

"The cause of humanity and of scientific progress is seriously menaced. Senator Gallinger has again introduced into Congress the bill for the 'Further Prevention of Cruelty to Animals in the District of Columbia,' which he has so strenuously and misguidedly advocated in the last two Congresses. * * * It is speciously drawn to seem as if it were intended only in the interest of prevention of cruelty to animals, but the real object is two-fold: 1. To prohibit vivisection; and 2. To aid the passage of similar bills in all the State Legislatures.

"It hardly needs to be pointed out that this would seriously interfere with, or even absolutely stop, the experimental work of the Bureau of Animal Industry, and of the three medical departments of the government, the army, the navy and the Marine Hospital Service.

"The animals themselves might well cry out to be saved from their friends. No more humane work can be done than to discover the means of the prevention of diseases which have ravaged our flocks and herds.

"The inestimable value of these scientific researches as to the prevention and cure of disease among human beings, it is superfluous to point out. Modern surgery and the anti-toxin treatment of diphtheria alone would justify all the vivisection ever done."

Dr. Keen's address closes by a strong appeal to the medical profession of the country, and especially to the organized medical bodies, to spare no effort to defeat the obnoxious bill.

I recommend that the Association instruct the State Board of Censors to address a letter, setting forth the importance of vivisection to the medical profession and the people, to our Senators and Representatives in Congress, and urging them to make every effort to defeat Senator Gallinger's bill.

The inauguration by our Southern Medical Colleges of the four year curriculum, as prerequisite for graduation, marks an era of progress in their work, and places them in this respect on a par with the most advanced colleges of the country.

Naturally, this longer course of study will afford our young men time to do better justice to the broad and ever-broadening science of medicine and therefore to better equip themselves for doing battle against disease.

We need the re-enforcement which these young graduates may annually bring to our ranks to aid us in marching to the final victory that awaits organized and legal medicine in Alabama.

Entering upon their life-work, after the increased educational advantages referred to, they should courageously step upon a high plane of ethics, and resolve to stand there, immovable to every selfish or sordid motive.

The Code of Ethics of the American Medical Association is the guide as to our conduct toward one another, toward our patients and in respect to the honorarium to be received for our services. The spirit that dominates the Code is to place the profession of medicine above that of a trade.

I fear there is a growing disposition on the part of some members of the profession to violate this spirit. One of the most dangerous directions which this disposition is taking is that of what is called "contract practice."

Some years ago, the Association adopted an ordinance on this subject, in which certain forms of "contract practice" were made legitimate and ethical. This departure from the old rule of requiring a separate fee for each separate service rendered was deemed to be justified by new conditions attaching to the laborers in the mines and factories and upon farms and railroads. In drafting the ordinance, an effort was made to protect the privilege granted from abuse, but this effort seems not to have been altogether successful.

For instance, in permitting practice by contract for the hired laborers of a corporation, or an industrial institution of any kind, it was expressly declared that the "contract" should not include practice for the owners and salaried officials thereof. Rumors are in circulation that this provision is being grossly violated.

Owing to these rumors as well as to bad tendencies in the policy of doing practice by contract at all, I recommend that the entire subject of

"contract practice" be reconsidered by this Association, and such action taken thereon as it may deem fit.

Shortly after my official career began, Dr. Baldwin, for a long time an efficient member of the Board of Censors of this Association, tendered his resignation. In doing so, he wrote as follows:

"I hereby tender my resignation as a member of the Board of Censors. As I am not now in active practice, I feel that there are others who are more entitled to the place, and better able to be useful to the Association."

In accepting Dr. Baldwin's resignation, I expressed the thanks of the Association for the faithful services he had rendered as a member of the Board of Censors, and the hope that he would continue his identity with the Association.

To temporarily fill the vacancy thus created, I appointed Dr. W. M. Wilkerson, of Montgomery, a gentleman believed to possess qualities that admirably fit him for the position.

At this meeting it will become our duty to permanently fill the position for the remainder of Dr. Baldwin's unexpired term.

Fellow members: I now turn away from the discussion of matters of business, that appeal to your judgment, and beg to remind you of a cause that I feel sure will appeal to the tenderest and most responsive chords of your hearts.

Nearly four years ago, Jerome Cochran, the author of our splendid system of organization, and the able and tenacious promoter of its success, fell with the harness of duty upon him, and went to his grave crowned with the chaplet of victory in the cause for which he had labored so long and so faithfully.

This Association, moved by a profound appreciation of the value of his life work resolved to erect to his memory some suitable monument that will tell to posterity the story of his achievements.

The leader who fights a battle and wins a brilliant victory, the statesman who, by eloquence and diplomacy, safely guides the ship of state through storms of danger, justly receives the warm praises and lasting gratitude of his countrymen.

Shall the memory of a man who was a great public benefactor be permitted to pass into oblivion, because, forsooth, he was a doctor?

At a memorial exercise held in honor of Dr. Cochran during the annual meeting of this Association at Selma, in 1897, Mr. McLeod, an able attorney of that city, said: " * * * the people of Alabama owe a debt of gratitude to Jerome Cochran that would bankrupt them to pay."

Let the doctors of Alabama, then, freely open their hearts and their purses, and soon a memorial, worthy of the dead and creditable to the

living, will rise up to proclaim that noble deeds are not forgotten. If, upon investigation, it shall appear that the finances of this Association will so justify, I recommend that a liberal appropriation be made from that source, say, one thousand dollars, which, added to voluntary contributions, would soon create a fund ample for the purpose in view.

In closing, permit me to thank you most cordially for the honor of being your presiding officer, and to wish that this meeting may be guided by wise counsels, and garnished by pleasant social commingling.

May we give and receive new inspiration for our work, may fall in love more and more with our chosen profession, and appreciate more fully than ever before the great advantages and opportunities of this Association. United in purposes of fidelity to the aims of our organization and anxious to keep pace with the progress of medicine; may each of us be a blessing and benediction to suffering humanity.

APPENDICITIS.

BY SAMUEL LLOYD, M. D.,

Professor of Surgery in the New York Post-Graduate Medical School; Attending Surgeon to the Post-Graduate Hospital, and to the Babies' Ward.

It was my privilege to be invited to read a paper before the New York Medical Union at their meeting on December 26th, 1899; and at that time I gave the statistics of twenty-five cases of appendicitis that I had seen during the first attack and followed for years, until the final outcome was known.

These twenty-five cases offer some suggestions in regard to what happens in the so-called conservative treatment of appendicitis. Of the twenty-five cases, six terminated fatally. This is a mortality of twenty-four per cent., and is rather startling when it is compared with statistics of experienced operators. Fitz gives the mortality in his statistics compiled in 1886 as twenty-six per cent. Eighteen of my cases had recurrent attacks. In other words, only seven escaped without a recurrence.

This is contrary to the usually accepted statements of the physicians who have reported that their cases of appendicitis always result in recovery under medical treatment. The explanation seems to me to be a comparatively simple one: They do not follow up their cases. Many of these cases I traced from one physician to another before their histories were complete. In this series of cases a gradual tendency to an increase in the frequency and severity of the attacks was noticed. I do not mean by that that every attack is worse than the last, but that the general condition gets worse, and the sum total of the attacks one year is apt to be greater than that of the year before. Nor do I mean to be

understood as claiming that the attacks need necessarily follow one another in rapid sequence. On the contrary, several months, or even years, may elapse between attacks, but in the end the testimony of the patient will be that the colic is more frequent and more severe, constipation less readily combated, and indigestion more constant and more marked. The right spasm is more distinct and more tense; the patient is inclined to protect this side, and keeps it turned away from danger as much as possible; the appendix becomes more readily palpable and more painful to the touch. Flesh is gradually lost, and the general tone is decidedly below the proper and usual standard.

Similar ideas have been advanced by many other authors. Mynter² (*Appendicitis* p. 31), says that most authors agree that all attacks of appendicitis predispose to new attacks, unless the appendix happens to be totally destroyed by gangrene, complicated by a local circumscribed abscess, or unless obliterated by destruction of its epithelium and cicatricial retraction of new formed tissue. His cases showed recurrences in thirty-five out of a total of seventy-five (47 per cent.).

German statistics on this point are interesting. Thus Rotter³ at the St. Hedwig Kraukenhaus in Berlin, gives the statistics of all the cases treated in both the medical and surgical wards of that hospital. He claimed that 84 per cent of all cases which were brought to the hospital in the first six days of the disease recovered spontaneously, and the whole number of spontaneous recoveries, that is of cases admitted at any stage of the disease, was 74 per cent. If the cases of circumscribed abscesses alone are considered, the percentage of recovery without operation rises to 90 per cent. In the Moabit Hospital, in Berlin, in three years and a half there were one hundred and forty-nine cases, with a mortality of 14 per cent. In these cases in the Moabit Hospital, Sonnenburg operated ninety-four times, or in 63 per cent of all the cases, while Rotter only operated in 25.3 per cent of his cases.

Ewald⁴ in considering these reports, draws two conclusions: First, "that it is unnecessary always to operate at the earliest possible moment," and second, "that in cases of peri-appendicular abscess, spontaneous resolution occurs in an appreciable number of cases." He adds that "it cannot be doubted that a resorption of the pus * * * took place. In what manner this is accomplished, whether by auto-drainage into the cæcum through the perforated vermiform process, by direct perforation into the gut, or by resorption on the part of the peritoneum must remain problematical."

Rotter also gives some data in regard to recurrences. In the histories of his cases only twenty-one or twenty-four were recorded as having had previous attacks. They rarely had more than two attacks, and the

second usually occurred within a year after the first. Attacks occurring later than that were rare.

These statistics are so absolutely at variance with those of other observers and with my own, that they are given only to show how a medical man can be led astray. These cases were largely observed in large hospitals and in Germany. In that country they do not generally class appendicitis as a surgical disease, but treat it medicinally until an abscess is formed, when they open and drain, and it is of course a fact that the statistics of cases seen in hospital practice are essentially different from those seen in private practice when the future condition of the patient is to be considered.

Every one admits that the majority of cases will recover from their first attack, and even from several attacks; every operator has seen large abscesses disappear, but the difficulty is that when these patients are observed by the physician he records them as triumphs for his skill in therapeutic application, and forgets to observe them for the next five or ten years.

That is the difficulty with Rotter's cases. They were not watched long enough. This, I think, I was able to show in my recent article on this subject and I have no doubt if every one should take the same precaution to follow up his cases, no matter how much it might hurt his pride to ask his successor in the patient's confidence about him, we should have statistics so abundant that this question would be incontrovertibly settled.

We concede the fact "that it is unnecessary always to operate at the earliest possible moment," but that is not the point. The question is how are we going to tell whether the patient will recover from the present attack or whether operation must be done to save his life. There is another question also that enters into this discussion at this point. Which method of treatment, in the end, is most economical for the patient from the standpoint of both physical and financial well-being. In other words, which will cause the least loss of time, the least risk, and the least pain and discomfort?

If it could be proven that these statistics from St. Hedwig's Krankenhaus and from the Moabit Hospital in Berlin, as interpreted by Ewald, were correct, there would be no question about it. But Toft⁵ found the appendix diseased one hundred and ten times in three hundred autopsies and in a state of active ulceration in 5 per cent. of the examinations. Hawkins⁶ in one hundred bodies of patients dead from other than appendicular diseases, which he examined at St. Thomas' Hospital, London, found sixteen in which there was past or present disease of the appendix. Fitz⁷ in 1886 placed the recurrence at 11 per cent., but later he raised the percentage to 44 per cent.⁸ Krafft's⁹ statistics also disprove

these statements of Rotter's, for he found that twenty-four of his 106 cases had had previous attacks, generally one to three years before, but in one case twenty years had elapsed. Treves has mentioned a case that had had fourteen attacks, and McBurney one with twelve. My cases showed, as we have already said, recurrence in eighteen out of twenty-five cases—72 per cent. This is so much greater than the results already mentioned, that it cannot but cause comment. It is explainable, however, when one considers that my cases were watched for years and careful records kept of their conditions. Hawkins, out of 250 cases, found a history of previous attacks in 23.6 per cent. Wood¹⁰ studied the question especially, and reports as follows: Irish, 50 per cent.; Price, 50 per cent.; Richardson, 49.8 per cent.; Ranzohoff, 13 per cent.; Knaussold, 23 per cent.; Porter, 9.5 per cent.; Bryant, 11 to 17 per cent.; Sahli, 20 per cent.; Gage, 33.5 per cent.; Wyeth puts it at 80 per cent., and Willy Meyer¹¹ at 90 per cent. Finally Lenander¹² says that all the cases he has observed long enough have had relapses.

Could we throw out of consideration the question of relapses, we could then adopt Ewald's views, but unfortunately all surgeons have been obliged with in the past few years to recognize the fact that recurrence is the rule and not the exception, and it is this that has led to the axiom that operation should be performed in every case of relapsing appendicitis.

A question that is raised by this statement, is how many times should the patient have an attack before we operate? McBurney has said twice, and to my mind this is the limit, although I am free to confess that I feel safer for my patients after they have had one well marked attack when I know that the appendix is removed.

Large masses in the right iliac fossa during an attack of appendicitis have disappeared; how or when, we do not know. Is it always safe to wait for this disappearance? Are we not quite as likely to have a rupture of a tense abscess into the general peritoneal cavity, or have it burrow upward until it penetrates the diaphragm and empties into the lung? I have seen this happen in my own cases. Even when it empties into the gut it does not mean freedom from recurrence by any means. Two cases terminating in this way in my own experience had to be operated upon later for recurrence.

On April 16th, 1896, I read a paper before the Medical Association of Georgia.¹³ As the basis for that paper, I took 558 cases from literature and tabulated them. Since then I have examined 1,011 in the same way, of which 878 resulted in abscesses, perforation, peritonitis, etc.

The following table gives the pathological details:

Perforation or abscess	315
Perforation with ulceration	17
Perforation with peritonitis	69
Perforation with concretion or foreign body	133
Perforation with gangrene	68
Perforation with gangrene and concretion	18
Perforation with inflammation	6
Perforation with hardened feces	17
Perforation with concretion and peritonitis	27
Perforation with foreign body and peritonitis	15
Perforation with lumbricoid worms	6
Perforation with hernia	5
Perforation with rupture into bladder, rectum or vagina..	15
	— 711
Foreign bodies	26
Fecal concretions	5
Inflammation	36
Enteroliths	3
Gangrene	34
Gangrene with concretion	8
Inflammation with concretion	4
	— 116
General peritonitis with foreign body and gangrene	22
General peritonitis with ulceration	29
	— 51
	—
Total number of cases	878

This leaves only 133 cases in which the condition was well known or where there was no definite pathological condition found.

As the result of this study, I tabulated the conditions usually met with, as first, cases in which the disease follows trauma; second, cases following septic inflammations in other parts of the body, such as salpingitis in the female, post-partum septic inflammation of the uterus, typhoid fever, tuberculosis, etc.; third, direct infection of the mucous membrane of the vermiform appendix by its contained bacteria; fourth, alterations in its position and shape so as to occlude its lumen, preventing the escape of its natural secretions and contained intestinal contents; fifth, alterations in its position, and pressure upon its mesentery by growths and impacted feces in the cæcum; sixth, alterations in its position or shape so as to shut off its blood supply; seventh, foreign bodies, including fecal concretions,

A most interesting case of the sixth division was operated upon by me at the New York Post-Graduate Hospital this winter. The patient was a boy about ten years of age who was sent to me by Dr. Shufelt. He had been ill only two or three days, and on admission his temperature was only 101 degrees, but his pulse was over 130 and weak. A tumor could readily be mapped out in the right iliac fossa. Operation was performed immediately, and the appendix was found to be gangrenous from the tip to within half an inch of its base. The gangrene was due to the appendix having been twisted three times on its own axis, so that its mesentery was wound around it, forming a firm band and completely strangulating it.

Taking this classification of cases, the question of treatment in each set naturally interests us. A traumatism in this region does not differ in any essential from a traumatism in any other part of the abdominal cavity, producing contusion or injury of the intestine, and should be subjected to the same rules, and to the same treatment. So, too, in rheumatic or septic or infectious disease, the treatment would be the same as for similar lesions anywhere else in the abdomen. If the obstruction of the circulation is prolonged or permanent so that the vessels are occluded, it is perfectly evident that there can be but one result, sphacelation of the whole organ beyond the point of circulatory obstruction. It is not necessary here to have any septic infection in the beginning, but the sphacelation of the organ will naturally produce the same train of symptoms that would follow gangrene elsewhere. It offers the proper field for the development and growth of the different bacteria, and in a very short time it naturally becomes the seat of pathogenic and pyogenic changes. Naturally this evolution depends upon the rapidity with which the disease progresses. If the obstruction is complete, the gangrene is rapid and perforation occurs before the appearance of an abscess or inflammatory changes that are sufficient to agglutinate the folds of the intestine lying about the iliac fossa. The natural result of this is perforation into the general peritoneal cavity with all the symptoms of an acute general peritonitis. If on the other hand, the progress of the disease is less rapid, agglutination of the surrounding folds of the peritoneum will wall off the appendix, and then if perforation results, the general peritoneum is protected. This is true of all the other conditions. The longer the irritation the less rapid its extension, the more certain is the involved area to be protected by inflammatory adhesions.

The formation of a tumor, then, is not solely and in every case due to the presence of an abscess. In the great majority of cases it is impossible to recognize fluctuation. In the earlier stages, and when the disease progresses slowly, inflammatory lymph without the formation of pus

may be thrown out around the diseased organ, forming an almost impenetrable barrier to the escape of the contents of the appendix into the peritoneum, and producing a well-marked induration. It does not necessarily follow that because a tumor is present in the right iliac fossa the case will not resolve and recover without operation. On the contrary, a simple inflammatory induration and adenitis following a not too active germ infection may, on the disappearance of the original point of infection, be so well provided for by the natural conditions that it will gradually be absorbed, and frequently completely disappear. That is, of course, provided no secondary attacks occur.

The patient is not always safe, however. This probably accounts for many of the cases of which Ewald speaks, of resorption of pus, even when the tumor seems to have developed so slowly as to be comparatively well walled in by the agglutinated fold of peritoneum. The erosion of the pent-up fluids may cause perforation into the peritoneal cavity, and naturally if this happens, a virulent septic peritonitis must result. Spontaneous evacuation into the lung, bladder, intestine or bowel may follow, but it is hardly safe, in view of the rapid mortality following perforation into the peritoneum, and the risk of such an accident to take any chance of waiting for this to occur. If an examination of the blood shows marked leucocytosis, it will help in the diagnosis of abscess.

I do not suppose that the question of the advisability of operation in this disease in the cases where the appendix is gangrenous, where abscess has already formed or where a fecal concretion or a foreign body are probably present would be opposed by any one. It must be perfectly obvious that in these cases, unless the causes of the irritation are removed by mechanical means, the patient is in imminent danger and likely to develop general septic peritonitis at any moment. By a reference to the table it will be seen that these cases make up the vast majority of all the cases of appendicitis. It is also probable that in the present state of surgery the majority of medical men are in favor of surgical intervention in cases tending toward general peritonitis, even though the symptoms do not point to perforation or abscess formation, in the hope that drainage of the abdominal cavity and the removal of an irritating focus of disease may forestall what would otherwise be a fatal complication.

This leaves a comparatively small number of cases in which the question of what should be done would be debatable. It is for these reasons that I do not believe that any case of appendicitis should ever be considered as purely medical. Given a case of appendicitis, whether it has a history of recurrence or not, the medical attendant should be prepared for operation at any moment, and if not himself an expert abdominal

surgeon, he should at once arrange with some one who has had the necessary experience to hold himself in readiness to operate.

It has been abundantly proven that the best time to operate is in the interval between attacks, but is sometimes very difficult to say whether, if we wait, the patient will ever live to have an interval. I know of no absolute rule for this, and personally I am guided more by the condition of the pulse and the abdominal rigidity and tenderness than by the temperature. If the pulse is rather weak and rapid, the countenance very anxious, the tongue badly coated, the abdominal tension marked and the induration as felt through the rectum excruciatingly painful and the leucocytosis marked, I believe delay to be dangerous. Operate then and operate at once.

In the course of my clinics at the New York Post-Graduate Medical School and Hospital on the subject of appendicitis, I am in the habit of giving this rule. In all cases of appendicitis where the symptoms are progressing favorably, after twenty-four hours have elapsed, operate and operate immediately, but in those cases where there is an undeniable amelioration during this time wait until the interval and operate then. In recurrent cases operation should be the invariable rule.

We are forced to the conclusion that operation is the only rational course to pursue, for as McBurney has said, "No purely medical treatment of actual value in preventing or controlling the disease has yet been presented to the profession." And he might have added that with the definite information we now possess of the etiology and pathology of the disease none will be presented until, in the natural course of events, the appendix is evolved out of existence.

The next question, then, is how to operate. The evolution of individual surgical opinion on this subject is interesting. Most of us have begun by considering the question from a most conservative standpoint, only operating under the severest necessity; then with increasing experience and a riper personal knowledge of the progress of the disease we have found ourselves gradually advising earlier and more radical procedures. In this the result of mature thought, or is it the rashness born of familiarity? The general tendency of all surgeons who once begin to work in this field toward the same general conclusions, that the earlier the operation the greater the number of complete recoveries and the shorter the loss of time, proves that it is the result of ripe experience.

In 1827 Melier¹⁴ described the forms of appendicitis and mentioned both perforation and recurrence as possible complications. He suggested the possibility of treating the disease by surgical means "if it were possible to establish the diagnosis." In the case of Hancock¹⁵, 1847, so often quoted as one of the earliest operations for appendicitis, the incision was made "from the spine of the ilium to the inner side of the inter-

nal abdominal ring to relieve intestine, if found, or omentum, or if pus to evacuate it." "Upon the opening into the abdomen a quantity of excessively offensive turbid serum, with fibrinous flocculi poured out and also patches of false membrane." This was therefore not a planned operation for appendicitis, but rather an exploratory laparotomy. Parker¹⁶ also operated about the same time, but he did not publish his case until 1867. He then advocated cutting down to the peritoneum and puncturing with an aspirating needle. Parker operated again on a patient of Burge's,¹⁷ and then Leonard Weber¹⁸ operated by cutting down to the peritoneum and waiting for the abscess to rupture. Buck in 1874¹⁹ reported these cases, together with one each by Krackowizer, Ward, Sands, Kelsey, White, and one of his own. He varied the technic by enlarging the trocar puncture by incision with the knife. It should be noted that in 1856 Dr. George Lewis²⁰ in an article on abscesses in the appendix vermiformis said, in regard to treatment, that he was inclined to favor the making of a free incision down upon the tumor. Parker's method continued to be the mode of operating, and in July, 1880, Sands²¹ in reporting twenty-six cases, said that "in every case that has fallen under my observation, the operation has been performed essentially in the manner recommended by Dr. Parker." "An incision several inches long and usually parallel with Poupart's ligament, was made over the most prominent part of the tumor, through the skin and subcutaneous fat. Subsequently the deeper layers were divided until the fascia transversalis came into view. If fluctuation then became evident, the abscess was immediately opened, otherwise the fascia was penetrated in various directions by means of a hypodermic syringe until the seat of the abscess was discovered when the operation was completed by entering a narrow bistoury alongside the needle." He adds at this time that "an external incision of two inches will afford ample space, and the wound would grow narrower as it increases in depth, while the direct opening into the abscess need not be longer than will readily admit the forefinger." Bull²² in 1873 read a paper in which, while he still advocated the method proposed by Parker, he brought out the fact emphatically that as soon as suppuration was made out, the tumor should be incised. This was the general position of surgeons in 1882. At this time the truth was just beginning to dawn, the profession were just realizing that instead of the cæcum being the point of involvement, the disease was almost invariably confined to the vermiform appendix. This evolution in opinion was not sudden, but gradual; the accumulating experience of operators with the so-called perityphlitic abscess was revealing the true state of affairs. From an operative point of view the field was clouded by the assertion made by Sands that these abscesses were always extra-peritoneal, developing in the cellular space below the meso-cæcum and spreading from

that point along the fascial planes of the back of the abdomen outside of the peritoneum. His advice in regard to operating and trying to avoid the peritoneum was followed by many, and as it delayed the thorough inspection of these appendices by this brilliant surgeon, it delayed by just so much the true knowledge of appendicitis. Therefore, in 1879, when Biermer, in 1880 Matterstock, and in 1882 Talamon, described the part played by the appendix in the production of perityphlitis, surgeons were almost ready to accept the proposition. In 1885 Treves exploded the extra-peritoneal theory, and in 1886 and 1888 Fitz, of Boston, conclusively settled the position of the appendix in diseases of the right iliac fossa. Kroulein, in 1884, and Sands in 1887, conducted the first planned operations for the removal of the appendix. Treves, of London, advocated a similar procedure in the latter year.

A resumé of appendicitis from this time until the present would be practically a history of American surgery and American attainment in abdominal surgery. In 1891²³ in a discussion before the New York State Medical Society, McBurney took front rank as the exponent of appendical surgery, a position he has continued to hold up to the present time. McBurney's point was as important from the position of the diagnostician as his plan of operating is to the surgeon of the present day. He said, "I have found the exact locality where the greatest sensitiveness to pressure exists, to be a valuable means of diagnosis, so that in every case of abdominal pain, not otherwise satisfactorily explained, I make a careful search for it, and in the first hours of all attacks of appendicitis, if firm pressure is made with the finger tip, and especially if the patient is made to cough while such pressure is being exerted, it is invariably easy to determine that the most sensitive point is a definite one in most cases. This point is very accurately determined—in the adult from one and a half to two inches inside of the right anterior superior spinous process of the ilium on a line drawn to the umbilicus. In children it is, in proportion to their size, so much less distant from the spinous process."

Edebohl's²⁴ also made an important addition to our diagnostic resources when he, in 1894, described the method of palpation of the vermiform appendix. In carrying out his procedure the patient must lie on the back. Placing three or four fingers of our right hand flat on the abdomen, we feel for the margin of the right rectus muscle in the line between the navel and the anterior superior spine of the ilium. The fingers are introduced with a light steady pressure under the margin of the rectus until we feel distinctly the pulsation of the common iliac artery. The appendix is felt, as a rule, just outside the artery, its insertion about an inch distant, while its tip often crosses the artery. We move the fingers slowly outward as soon as we feel the pulsation of the

artery, and note with care the condition of the posterior abdominal wall; that is, the ilco-psoas muscle covered with the iliac fascia. This is the point of resistance against which we compress the appendix and which makes it possible to palpate it."

The operation divides itself naturally into that for the non-suppurative and the suppurative cases. When following this discussion at the New York State Society operations became more frequent, it was soon evident that the large incisions and the interference with the integrity of this portion of the abdominal wall rendered the patient extremely liable to hernia through the cicatrix. This led to a general revision in the method of operating and a study of the best means to avoid this accident. Kammerer²³, Mynter, and others, at this time suggested an incision just under the outer edge of the rectus muscle, drawing the muscle inward. The disadvantages of this incision are that when the sheath of the rectum is opened, branches of the deep epigastric artery are cut, and this often gives a hemorrhage necessitating a prolongation of the incision to control it. The incision is also at a greater distance from the appendix itself, especially if it is curled under the cæcum and bound down by adhesions.

Willy Meyer²⁴ has recently suggested a method of opening the abdomen in complicated cases of appendicitis, which he calls the "Hockey Stick Incision." He makes first a modified McBurney incision and then "after having entered the abdominal cavity, it will become evident whether or not the incision is large enough to enable us to do the necessary work. If the appendix is found to be situated inward or downward, and a wider entrance be needed, the incision can be lengthened straight upward as far as the surgeon thinks proper." With reference to lengthening the lower end he proceeds as follows: "Entering the peritoneal cavity at the lower angle of the wound with my left forefinger, I slide it inward to where the epigastric artery pulsates. I then curve the lower end of the incision by drawing the knife in a horizontal line, that is to say, perpendicular to the median line of the body, thus forming a rounded-off angle of about 135 degrees. The entire wound then has the shape of a hockey stick. In the horizontal part of the incision care is taken not to injure the epigastric plexus. It is primarily caught between two forceps, then cut and ligated. The incision ends at the border of the right rectus muscle. If still more room be needed, the belly of the rectus can easily be drawn inward, and the fascial layers beneath it be incised in the same direction, as the case may demand. In pulling the borders of this wound apart, it will be seen that an easy access has been gained to the organs situated within the small pelvis."

Personally I prefer a combination of the Morris²⁵ and McBurney²⁶ incisions. A curved incision one and a half inches long is made so that the

center is directly over McBurney's point. The aponeurosis of the external oblique is then carefully exposed and split in the direction of its fibres, never cut. This brings the muscular surface of the internal oblique into view. These fibres are also split as they run at right angles to the fibres of the external oblique. Now instead of using the retractors as suggested by McBurney, guy-lines of strong silk or catgut are put into position, one on each side of the separated internal oblique, and taking up as much of the divided muscle in each stitch as possible. This exposes the transversalis, which is also split in the direction of its fibres and also caught by two guy lines. The transversalis fascia and peritoneum are now taken up together and divided as far as possible in the long axis of the wound. The use of the guy-lines in the place of retractors, taking up less room, are able to get along just as efficiently with a small incision. If now it becomes necessary to enlarge this wound, the fibres may be split and the skin incision enlarged, until the muscular fibres are separated from insertion to attachment. In closing the wound we should always remember that the aponeurosis splits more and more as we manipulate the wound, and we should therefore draw the skin down and then up until we are certain that our sutures have reached the highest and lowest points of separation.

The management of the appendix is also important. Some operators are satisfied simply to ligate it, and then after cauterizing the stump to render it aseptic, drop it back into the abdomen. Others have adopted the purse-string method of Dawbarn²⁹. This consists of a circular continuous Lembert suture (silk) which is introduced through the superficial layers of the cæcum a quarter of an inch from the insertion of the appendix, and tied loosely. The appendix is then amputated half an inch or more from the insertion, and then dilated by introducing a pair of fine forceps into the cæcum and opening the forceps. The stump of the appendix is then seized by fine-toothed forceps, and invaginated half an inch into the cæcum, while the cæcum is pressed against the forceps by the fingers of the other hand. The circular suture is then tied firmly and the toothed forceps removed. Edebohls advocates invagination of the whole appendix into the cæcum. I always have been in the habit of closing the appendix as follows: Having tied off the meso-appendix in sections, and cut it free from the appendix, I cut through the peritoneum covering of the appendix about half an inch from its base. This peritoneum is then pulled back until about a quarter of an inch of the cæcum is exposed. Then a fine curved needle, armed with 00 catgut, is passed through the muscular coat of the denuded cæcum, and base of the appendix brought out about a sixteenth of an inch below the point where the peritoneum was cut. The needle is then carried across and inserted the same distance below the peritoneum, and to one side of the denuded mesenteric attachment, and carried down through the mus-

cular coat until it comes out at the margin of the reflected peritoneum. It is then carried to the other side of the mesenteric attachment, where a similar stitch is taken, coming out of the cæcum about a quarter of an inch. The field of operation is then carefully protected from the original insertion by a piece of gauze, and the appendix removed at the line of section of the peritoneum. Its lumen is then swabbed out with pure carbolic acid, and then with alcohol and dilated. Now while the operator holds the two loops of catgut by means of a pair of forceps so that they will pull on the margins of the appendical stump, the assistant draws the two ends taut. This invaginates the whole stump of the appendix and draws the cæcum together over it at the same time. The two ends of the stitch are now tied and the reflected peritoneum is turned back so as to completely cover the denuded portion. This is closed over by means of a continuous Lembert stitch which may be carried down to cover over the cut places in the mesentery, if that is considered desirable.

In cases of suppuration we should be invariably supplied with peroxide of hydrogen at 10 to 15 volumes. As soon as the pus is found, the peroxide should be poured in until it is evident from its action that all pus has been destroyed. At the Post-Graduate Hospital this is routine practice in all cases of appendicitis accompanied by abscess or general peritonitis. And I am confident that by its use I have saved cases that would otherwise have been inevitably lost. Within the past month I have operated successfully upon a case of general peritonitis where four pint bottles of peroxide were used in the general peritoneum. The froth and foam from the peroxide is then washed out with hot normal saline solution.

There can no longer be any question in regard to the advisability of operating in appendicitis. This is no place for the recital of cases, nor have I the time, but my own statistics show 160 appendectomies with four deaths—2.62 per cent. This compared with any medical statistics that can be advanced will, I think, offer a sufficient excuse for the early and radical operation for disease of the vermiform appendix.

24 West Fiftieth street.

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A PLEA FOR EARLY OPERATIONS IN INGUINAL HERNIA.

By W. F. WESTMORELAND, M. D.,

Professor of Principles and Practice, and Clinical Surgery, Atlanta College of Physicians and Surgeons; ex-President Medical Association of Georgia and the Tri-State Medical Society; ex-Vice President American Medical Association.

Mr. President and Gentlemen: You will allow me to thank you for the very kind invitation which has conferred on me the honor of reading a paper before this Association, and the personal pleasure of meeting its members and participating in this session.

In selecting my subject I was governed by the idea that it should be one in which the medical profession would feel a common interest. The motif of this paper is a plea for the more radical treatment of this distressing condition, and to get the profession generally interested in educating this class of suffering humanity to the same view. For the laity, as a rule, believe that the operations for the radical cure of hernia are very dangerous, and at best only a temporizing expedient.

The frequency of hernia and the mortality arising from it will prove a surprise to those who have not investigated this phase of the subject. Five per cent. of the total population, or four millions of people in the United States, suffer from this dangerous affection in a greater or less degree,¹ and one death in every six hundred from all causes is due to Hernia.² In Great Britain hernia caused more deaths than occurred from all uterine diseases.³ Ninety-three per cent. of all inguinal hernias are oblique.

The relative frequency of inguinal hernia to all other varieties is marked. Among 100 men who are ruptured, 97.5 per cent. are inguinal, and among 100 women who are ruptured 60.3 per cent. are inguinal.⁴

Hernia is treated by mechanical and operative methods. The mechanical method or use of the truss can be considered as curative and palliative. The use of some forms of truss is probably as old as the human needs. "Poucet described a recently discovered ancient Phenecian statuette of a god at least 3,000 years old which represents 'unmistakably' several ruptures on the abdomen, with a double hernical bandage resembling those now in use."

From supplying the primitive requirements of this pre-historic era, the truss manufactory has become a giant industry. In 1894 one firm in Philadelphia manufactured and sold 450,000 trusses, and in the same year a Hernia Specialty Company was incorporated in New York with half a million dollars capital.⁵

The scope of this paper will not allow a discussion of the merits or demerits of the truss. The truss as a curative agent is practically lim-

ited to children under five years of age. The most carefully collected statistics show the following results: Under 12 months of age the cure of truss is 58 per cent.; from one year to five, only ten per cent.; after that age, practically nothing.⁶

In acquired hernia the truss promptly applied will cure 5 per cent. at 15 years of age, and 1 per cent. at thirty years of age. The application of the truss in early childhood is practically safe, as strangulation is a rare accident. Stern's analysis of the children's hospital in eight important European cities shows that of 139,000 children treated, there was not a single operation for strangulated hernia.⁷

A few years ago the worsted or "hank-truss" became the popular truss for treating children. But where alternate cases have been treated with worsted and the spring truss, the latter has proved superior.⁸

The largest field of use for the truss is as a palliative measure. A patient calls for a physician, or more frequently a druggist, or truss vender; a truss is applied, possibly in a scientific, but probably in an unscientific manner, and the patient is sent abroad with a false idea of security. The large majority of strangulations occur in patients who are wearing a truss to prevent this accident. In a large number of cases the truss actually predisposes toward strangulation. By applying a truss we are sending a patient to face a future full of inconvenience, irritation, discomfort, pain (often actual agony) and danger. Danger much greater than that from the operation for radical cure.

In my own practice I stopped applying trusses some years ago. When a patient consults me in regard to a hernia, I tell him it is an operative case, and explain the dangers of his condition. If he prefers a truss, I decline to assume the responsibility of applying one, and let him go to some one else.

The greatest danger arising from hernia is strangulation. The usual method of handling this accident is its reduction by taxis or operation. I sincerely believe that taxis is responsible for the majority of the deaths that follow strangulation. It causes death by injuries to the sac or its contents, but principally by the delay it causes before operative measures are adopted. In the majority of cases probably both enter into the causation of the fatal issue. Nor should it be overlooked that the fluid of the hernial sac contains pyogenic organisms, much more frequently than previous publications would indicate, and that taxis will materially increase the danger of their infection. The mortality following successful reduction of strangulated hernia by taxis is 7.8 per cent.⁹ My own opinion and practice is that taxis has no place in the surgery of strangulated hernia except as an adjuvant to an operation, or as an expedient for temporary relief until the patient can be prepared for an operation.

If taxis is decided upon, the patient is placed in a position that gravity will assist in the reduction. Then traction is made upon the tumor, while the canal is being manipulated. Traction lengthens out the mass that is blocking the canal, favoring the effects you produce by manipulation. Pushing upward on a strangulated hernia, simply carries it over the edge of the ring into the abdominal wall. Even gentle manipulation should not be continued over five minutes. Taxis should be attempted only within the first four hours after strangulation; even this time limit may prove dangerously long in some cases, as even so serious a condition as gangrene of the sac has occurred within this length of time after strangulation.¹⁰

If taxis has been unsuccessfully tried before I see the patient, it is not repeated, but an immediate operation advised. Changes may have occurred in the contents of the sac, the result of or hastened by the mechanical violence of the previous taxis, that would make their return to the abdominal cavity extremely hazardous. I have seen the surgeon's face light up with the halo of glory of hard work well done after a difficult reduction of a strangulated hernia, and be correspondingly depressed by having to sign the death certificate next day.

I consider every case of strangulated hernia a surgical one, in which an immediate operation for its relief is indicated. There is no medical side to the treatment of strangulated hernia; medicine by causing dangerous delay eventually means death.

The surgical side of this question is none too bright. Bowlby¹² gives the mortality in the four largest hospitals in London as not less than 40 per cent., and ascribes it not to the operation, but to the time allowed to elapse between strangulation and operation. In cases operated within the first twelve hours the mortality is trifling. This trifling mortality from operations made within the first twelve hours rapidly grows to fifty and sixty per cent. by the fourth day.

A strangulated hernia is a surgical case; the treatment is an immediate operation. The danger of mortality after strangulation increases with each tick of the clock. Surgical lore describes more operations for hernia than there are days in a year. Many of them as mysterious and intricate as a Japanese puzzle.

Until recently none of the operations stood the time test, and few surgeons would have suggested any of these operations to a patient whose hernia was controlled with passable comfort and safety by a truss. About ten years ago the surgical treatment of hernia was revolutionized by the introduction of Halstead's operation for the radical cure of hernia; this was soon followed by Bassini's operation. But to the American surgeon is due the priority and honor of introducing the new principle which has already accomplished so much in alleviating human suffering.

The principle of these operations is the making of a new canal and ring. For the detailed technique of these operations I refer you to any work on surgery. Both operations have been modified since their introduction.

Bassini's operation is the most successful and has had the greatest vogue, especially in operations on children. This operation is practically the formation of a new canal. It has been modified by the substitution of kangaroo tendon for silk in the buried sutures, and a suture is introduced just above the cord; this, with the suture introduced through the same structures below the cord, prevents any separation of the tissues above or below the new internal ring, and restricts the cord to a narrow limit.

Halstead's operation has been modified by eliminating the excision of the veins of the cord; this was done to prevent resulting complications in the testicle. Orchitis occurred in one of my earlier operations. Since then I have curtailed the scrotum in each case where there was a redundancy of tissue. This prevents any dragging of the testicle. No patient has ever had an uneasy sensation in his testicle since the plan was adopted, nor do they have to wear a suspensory which is otherwise necessary.

In suturing the canal, I would suggest beginning the sutures close down over the pubes, introducing them from within outwards. This facilitates your work, and you can easily include in the sutures what structures you wish. If left till the last, these sutures are frequently placed with difficulty. The lowermost suture should embrace the conjoined tendon and include the transversalis fascia, also the edge of the rectus muscle when practicable.

Bassini's operation has had its greatest success in the young subject. But in the adult, where the canal and rings have been widely stretched, I have an abiding faith in the longer retaining power of the silver wire (Halstead's operation), particularly as experiments have shown that it takes about three months for the firm union of this tissue.

Either the silver wire or kangaroo tendon should be of a selected size for each case, as you would select different sized ligatures for varying sized arteries. Many failures can be attributed to the disproportionate size of the suture material to the tissues upon which it is used. If the suture is too large it interferes with nutrition and strangulates the tissues, cuts out and also predisposes toward infection. The silver wire is an inhibitor of pyogenic organisms and finally disappears.

The essentials for success in these operations is the careful coaptation of the greatest possible thickness of fascia, quietly maintained for a sufficient time for normal repair, without interference with nutrition, or the intervention of scar tissue or wound infection. In proportion to the formation of scar tissue there is an increasing tendency to relapse.

To insure complete rest of the wound, and to prevent any sudden tension on the sutures, I apply a plaster of paris splint from the umbilicus down around the pelvis and extending to the knee on the operative side. The minimum time limit to keep these patients in bed is three weeks.

Tension is occasionally necessary in bringing together some of the deep structures, particularly the pillars of the external ring. This violates one of the most important principles of antiseptic surgery, and these cases should be especially guarded against infection. These wounds should be absolutely dry before closure, and as there are no dead spaces, drainage is not necessary.

The present status of the operation is a mortality of less than one per cent. Drs. Bull and Coley have collected 8,000 operations made in the last decade with this light mortality. They consider pneumonia from the anesthetic the greatest danger. Ninety-five per cent. is a conservative estimate of cures following a properly performed operation. These estimates presuppose a judicious selection of cases.¹⁸

Indiscriminate operating by inexperienced operators should not be done. Now success or mortality in these cases, which are watched by kindred sufferers, will give operative measures a serious set-back wherever they occur.

To obtain the best results requires a judicious selection of cases, preferably young subjects, for the likelihood of cure is proportionate to the youth of the patient. Surgical skill in operative technique and experience in aseptic detail is necessary upon the part of the operator to insure success. I doubt if the first few herniotomies are ever satisfactory to the surgeon himself.

Our statistics of cures will remain unsatisfactory so long as the laity consider the operation as a dernier resort. We must educate them to the necessity of operating in early life, or as soon as the hernia is acquired. In my practice, indications for operation are all otherwise healthy children over three years old, where the mechanical treatment has been faithfully tried for a year without success. All cases over this age, either congenital or acquired, when the operation is not contraindicated by excessive stoutness, physical infirmities or old age, or the condition of the hernia itself. Where the danger was due to age or physical infirmities plus anesthesia, many of these contraindications have been removed by the use of local anesthesia. This method has proved of inestimable value in strangulated hernia, preventing much of the shock and mortality that followed general anesthesia. I operated with local anesthesia upon a case of strangulated umbilical hernia, with a resection of six feet of gangrenous intestine and an end to end anastomosis, without any pain, except when the gut was pulled on. For a most interesting review of this subject, I refer you to an article with a

report of forty-nine cases, by Dr. Cushing, in the *Annals of Surgery*, January, 1900.

In scanning this subject, I have tried to develop the logical sequence, that the operative measures are safer than the mechanical treatment; that in the former there are over 95 per cent. of cures, and in the latter after early childhood practically none, and that the most conservative physician can conscientiously assure his patient of these facts.

Under the modern pressure toward a division of labor and the tendency of all human efforts to focalize itself along special lines, surgery has made wonderful progress, and in no way is this better illustrated than in the treatment of hernia.

Before closing this paper, I wish to place the credit of this where it is due. The fact that Bassini's operation is the popular one has lead to the very general belief that the most valuable work in the literature and treatment of hernia was of European origin. The priority of each step that goes to make this operation is due American surgeons.

The principle of the modern operation, that of making a new canal and ring, is due Dr. W. S. Halstead, of Baltimore. The use of the animal suture (carbolized catgut) and suturing the canal in herniotomies, was successfully introduced in 1871 by Dr. H. O. Marcy, of Boston. He also introduced the use of the kangaroo tendon for the same purpose.

The plastic operation, that of transplantation of the rectus muscle in cases where the conjoined tendon is obliterated, is due to Dr. J. C. Bloodgood, of Baltimore.

Probably the greatest credit is due Dr. Wm. T. Bull and Wm. B. Coley for their modification of Bassini's operation, and particularly for popularizing this operation, and the best work and literature on this subject, a literature that I have drawn on freely in the preparation of this paper, will always be associated with their names.

Gynecology and abdominal surgery, these kindred children of modern surgery (medicine), which as they have grown, have acquired such power to remove and alleviate human suffering, had their birth in Southern genius. The foundation of modern scientific gynecology was laid in this charming city, as the foundation of abdominal surgery was built in Kentucky, and as Marion Sims went abroad to teach the European surgeons that science of which he was the father and master mind, so have his successors in this country sent to their homes with broadened views those distinguished European gynecologists who came to this country to teach them. The priority, originality and best work in gynecology and abdominal surgery is that of American surgeons, and, please God, so it will remain.

1. Surg. Gen. F. H. Baxter, U. S. A. 2. U. S. Census 1880. 3. Spanton, *Inter. Med. Con.*, 1881. 4. J. B. Walker, *Med. Rec.*, January 27, 1894. 5. J. B. Walker, *Med. Rec.*, January 27, 1894. 6. Macready. 7. Stein. 8. Bull & Coley. 9. Frickhoffer. 10. Bull & Coley, p. 162. 11. Coley, W. B., *Med. News*, September 2, 1899. 12. Boweley Laucet, May 20, 1893. 13. W. B. Coley, *Sajous Annual*, Vol. III., pp. 434 and 436.

SOME OBSERVATIONS ON THE VALUE OF VACCINATION
AS A PREVENTIVE OF SMALLPOX.

BY H. GREEN, M. D.,

BOLLING, ALA.

Mr. President and Gentlemen of the Association: I shall not tax your patience nor impose upon your good nature by attempting to give you a wearisome army of statistics in support of my contention that vaccination prevents smallpox. What I will try to give you, in as few words as possible, is my personal experience.

In 1898 I was physician to a convict camp at the mill of the Milner, Caldwell & Flowers Lumber Co., at Bolling, Ala. As most of you are perhaps aware, the convict regulations require that all convicts be vaccinated. My rule at this camp was to vaccinate about every three months, as we were constantly receiving new men in place of those whose terms expired, etc. I examined every convict, and vaccinated all who did not show the typical pitted scar.

On the 14th day of April, 1898, Mr. Smith, a deputy, went to Evergreen to get five prisoners who had recently been sentenced. I vaccinated the five convicts on the day after their arrival at the camp, along with a number of others who had been brought in since I had vaccinated last. About ten days after having been in the Evergreen jail, in which we afterwards learned there had been a case or two of varioloid, Mr. Smith was taken sick, and in a few days developed a typical case of confluent smallpox. About the same time two of the convicts, one man and one woman, who had come from Evergreen, complained of being a little sick; had slight rise of temperature, headache, etc., and in a day or two I found them with a varioloid eruption. It was well nigh impossible to tell who had been or who had not been exposed to these two convicts, as they had been working about the mill and eating in the same mess room with their fellows, about one hundred and twenty-five in all. So we decided to isolate only those who had slept in the same room with the sick, and watched carefully for suspicious symptoms in the others. Accordingly, two cabins were built in the pine woods near the mill, and the sick woman, together with two other convict women who had been sleeping with her, were put in one cabin, and the sick man, with six other men, who had been occupying the same room with him, were put in the other cabin. These eight well ones staid out in the cabins with the sick ones, ate, slept and freely mingled with them until desquamation was complete and all danger of infection had passed. Every one of these eight had good vaccine scars, and were vaccinated as soon as smallpox was suspected. I neglected to say that I vaccinated every convict in

the camp and every person in the village who would submit to it, as soon as the diagnosis was made.

Now, the points I wish to call your attention to are, first, Mr. Smith had never been vaccinated, and upon slight exposure had a malignant variola. As soon as I suspected that he had smallpox, which was not until the eruption appeared, I vaccinated his entire family consisting of wife and six children, all of whom had been in the room with him up to this time. He was isolated in a little house about seventy-five yards from his dwelling, where he stayed until desquamation was finished. None of his family took the disease.

Second, about one hundred convicts well and repeatedly vaccinated, were exposed more or less to the two who took sick in prison. These, however, were only exposed to the initial stages, and none of them were infected.

Third, eight convicts who had been most intimately exposed were carried to the same pest-house with the sick ones, and freely mingled with them until they were entirely well, thus being exposed to all stages of the disease. They were smallpox-proof, and only so on account of being thoroughly vaccinated. Fourth, Dr. Watson, whom I thank for valuable help, and myself attended Mr. Smith and the sick convicts, Dr. Watson staying beside Mr. Smith's bed several hours every day on account of his very severe illness. Both of us escaped; of course we were well vaccinated.

My honest belief is that had it not been for vaccination, we would have had an epidemic of smallpox in that prison, and believe the facts I have stated give me ample reason for this belief.

My object in reporting this experience is the hope that it will strengthen and confirm some wavering brother's faith in vaccination. Of one thing I feel certain, vaccination will prevent smallpox. Failure is due in my opinion, to a failure to produce vaccinia. I would urge every physician to be sure that the patient has a Jennerian sore, and not a septic ulcer. Don't be satisfied because you produce an ulcer that lasted three months and left a big shining cicatrix. The typical pitted scar is what you want to produce. I know that these ulcerating sores on a patient's arms tends to bring vaccination into disrepute, but I have not been able to avoid having such a scar once in a while. It is well nigh impossible to prevent them from becoming inoculated with septic materials occasionally. However, this is no argument against the efficacy of true vaccination.

Before closing I wish to call attention to the urgent necessity of legislative action to assist us to stamp out the disease that has existed, in varying degrees of malignancy, in our own and sister States for several years. It has cost our State thousands of dollars, filled a large number

of untimely graves, and left its disfiguring mark on hundreds of our citizens. I would urge every member of this Association to take a personal interest in this matter, make it a point to see your representatives and try to impress upon them the necessity for some action on their part along this line.

SCARLET FEVER IN BIRMINGHAM.

By M. N. DUE, A. M., M. D.

It is not my intention to write a complete clinical history of scarlet fever, for the disease is an old one, and perhaps there is no member of this society who has not been at some time or other called on to treat it. But I wish to present to you a few phases of the disease as it has occurred in Birmingham since 1892. Not that scarlet fever in Birmingham is any different from scarlet fever in other Southern cities, but our climate and other environments, to some extent, make scarlet fever less to be dreaded and less fatal in its active effects and more remote sequelæ than in more northern climates.

In looking over the book of contagious and infectious diseases, as kept by the county health officer, I find that in 1892 there were thirty-one cases reported, the largest number, seven, occurring in January. In 1893 there were twenty, the largest number, nine, in June. In 1894 there were twenty-two, the largest number, seven, in November. In 1895 there were thirty, the largest number, eight, in October. 1896 was evidently an off year or a complete list was not given to the health officer, for only six cases are on record, three occurring in January and three in November. In 1897 there were twenty, the greatest number, twelve, in October. In 1898 there were thirty, the greatest number, nine in October. In 1899 there were nineteen, September and November each having four. During the three past months of the present year twenty-eight cases have been reported, eighteen of which occurred during the month of March.

It can be seen from the foregoing record that for a city of the size of Birmingham, and with the cosmopolitan population that she has, there have been remarkably few cases.

More cases have been reported during the month of October than for any other month, but spring and autumn are about equal in the aggregate number of cases.

There has never, to my knowledge, been an epidemic of scarlet fever here, but at the same time there has never been any extended period of time that we have not had a few scattered cases. I say scattered, for rarely do we ever find more than two or three cases in the same neigh-

borhood, but we find them in different parts of the city, one case having no connection in any way with another.

At times it comes with no known history of contact nor exposure to the disease, but in the majority of cases a straight history of exposure is traceable.

It seems to be a disease confined almost exclusively to children, though it is possible for adults to have it. I have never seen an adult case, though have treated children in families where the adult members had never had the disease in childhood, yet exposed themselves by sleeping with the infected child and in every other possible way without contracting the disease. The oldest child that I have ever treated for scarlet fever was fifteen years old, and her case was a very mild one. Children under one year of age are not very susceptible. One case in particular I remember. I was called to see a child ten years of age. The family thought that she had a simple case of tonsillitis, and exercised no precautions in keeping the other children out of the room. I found a baby three months old in the bed with the sick child, and was told that the baby had been sleeping with her for some time. This child had one of the severest forms of scarlet fever that I ever saw, but the baby never developed a symptom.

The onset of the disease, as a rule, is sudden. Frequently it is ushered in by a chill, with nausea and vomiting; again the first symptom is a sore throat, resembling tonsillitis. There may be a sudden rise of temperature, going to 104 or 105 degrees just preceding the eruption, or there may be a gradual rise of temperature going only to 101 or 102 degrees and receding as the eruption appears over the body. The throat, as a rule, is inflamed, and membranous patches may or may not spread over the tonsils. Of the twelve cases that have come under my observation, the condition of the throat has given more trouble than any other symptom. Just preceding the eruption and extending over two or three days there is an intense itching due to the dilatation of the smaller blood vessels, and following this itching the eruption which is of a bright crimson color comes on rapidly. The eruption is usually first found on those parts of the body that are least exposed to air. It remains for two or three days, and then recedes. In from one to six weeks desquamation takes place, the desquamation being thickest where the skin is thickest.

The tongue is usually coated in the beginning with a white thick fur, which gradually disappears around the edges, until finally, in the severer cases, all is cleaned off, and the tongue becomes almost as red as a beet. The eyes are always bright, and shining, and glassy. The bowels, as a rule, are constipated.

I shall not dwell on the complications of nephritis, bronchitis, pneumonia and rheumatism, which are the most common, for with the excep-

tion of rheumatism, I have not met with any of them. Rheumatism of a mild form, though, I have had in three out of twelve cases. It caused considerable pain and extended the febrile period, but readily yielded to liberal doses of salicylate of soda.

As to sequelæ I have had none. The mortality in Birmingham cannot be obtained without going over the whole death record of the health officer, for cases of scarlet fever are merely reported to the health officer for the sake of taking the necessary precautions to prevent the spread of the disease, without regard to the final result of individual cases. But I think that the records will bear me out in saying that the death list from this disease is exceedingly small. Personally, I cannot remember hearing of more than two deaths since I have been in Birmingham.

In my twelve cases the treatment has been largely symptomatic. In a few cases I have followed the old routine treatment of J. Lewis Smith, in giving large doses of Tr. Ferri Chloridi; but in most of my cases, which were mild, I have, as a rule, given salicylate of soda, and have met the different symptoms as they would arise. In one case where temperature went to 105 degrees F., I used sponge baths, constantly keeping the temperature, as much as possible, below 103 degrees F. For the inflamed and enlarged lymphatic glands of the neck, I have found Ichthyol 3ss to the ʒi of Vaseline to be very beneficial.

Does scarlet fever occur among the negroes? While the full-blooded Africans may be immune, I believe that it does occur among the mulattoes, and those who have some caucasian blood in their veins. I think that I have seen one case; certainly there was present every symptom of scarlet fever. A year previous to this attack I had treated this child for measles. I think that there is some reason for thinking that many of the cases whose origin is obscure could be traced to the woman who does the washing. These mild cases among the negroes would scarcely be noticed, and cause them little inconvenience, and yet could be the means of transmitting the disease in a severe form to some white child.

Correspondence.

Paris, France, April 12, 1900.

Editor The Alabama Medical Journal.

My Dear Doctor:—Thinking that probably some of our physicians in Alabama would like to hear from this side of the water, I will write you a few lines.

I have been here now about one month, attending very closely to the electrotherapeutic clinic of Dr. Apostolli, and I find his clinic a very fine one indeed,

The Doctor does not confine his work to Fibroids, by any means, but does general electrotherapeutic work, while at his clinic a large number of uterine fibroids are treated daily. Mousieur Apostalli is only at his clinic himself from 11 a. m. to 1 p. m., three times per week every other day and, from 7 to 9 p. m. on Tuesdays. He tries and makes a personal examination of every patient that attends the clinic once per week.

The examinations, I think, are made more thoroughly and a better record kept of every case treated at this clinic than any I have ever attended, which is very important indeed in making his statistics of value for future use and reference. I find him a very clever, nice gentleman in every sense of the word. He invited me on my first arrival in the city to come to his clinic, make myself at home, and see all that was to be seen; and I know you will be surprised when I tell you he would not charge me a cent for the privilege.

That is the way in Paris, though I have not found a place but what I could see all the operations I wanted without any mention of money. I find at Dr. Apostalli's clinic about an average of some 15 or 20 cases of fibroids being treated by electricity daily, every case I have seen since I have been here (and that is a great many) are progressing nicely and improving without exception. In spite of all the fine spun theories about subperitoneal fibroids and many others not being amenable to treatment by electricity, is not borne out by Dr. Apostalli's clinical reports or his work.

Of course electricity has its limitations in all diseases, just like calomel and strychnine, as it is more powerful than either one of these for good, it is correspondingly powerful for harm when used without knowledge and discretion.

I notice he has some very interesting experiments being made in the treatment of tuberculosis at the clinic—he has not claimed any cures, nor has he made any claims whatever about its being a cure, but from what I see of it I like it, and will tell you all about it when I get home.

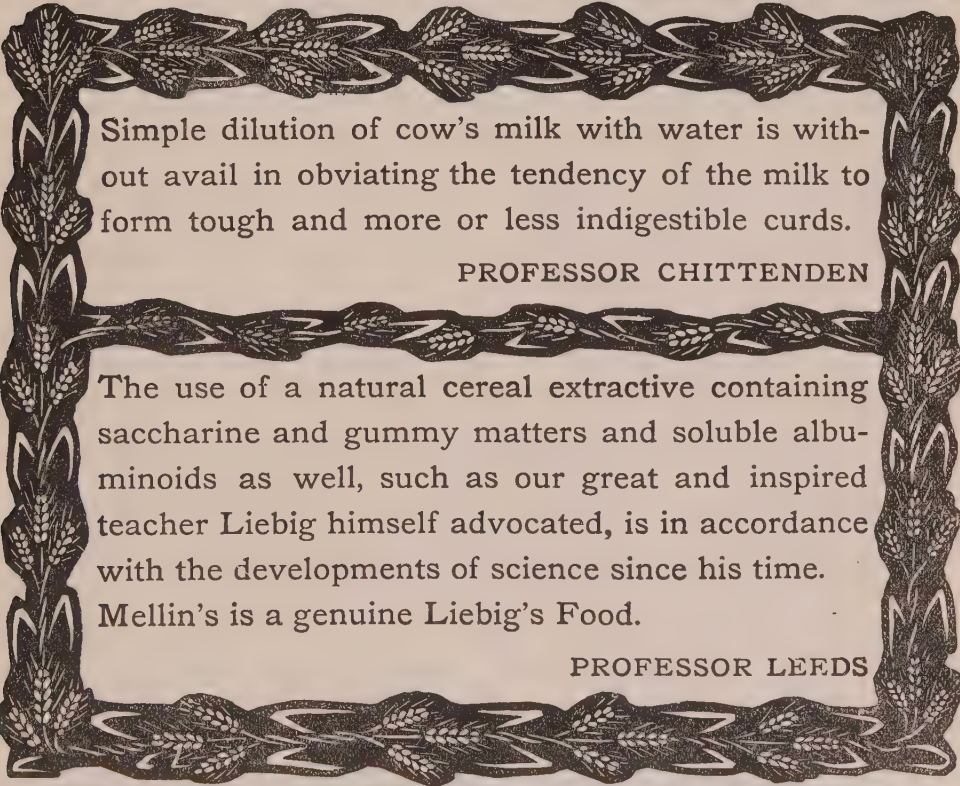
Having finished my work here, I suppose I will leave tomorrow night for Vienna, Austria, but will go down by Rome to spend Easter Sunday, and see a little of that famous old city and then to Vienna and Berlin to work again.

I may let you hear from me again from Vienna, if I am in a writing mood.

Your friend, J. D. Gibson.

P. S.—I liked to have forgotten it. I have been elected a member of "The Electrotherapeutic Association of Paris." Thanks to my friend Apostalli and his four assistants. Respectfully, J. D. G.

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One teaspoonful represents, or is the equal of five grains of the sub-nitrate. It is employed for its soothing, sedative, and feebly astringent influence upon the mucus membranes, and can be combined with alkalies, anodynes, astringents, etc., but not with acids; try it with Tincture Opium and Tincture Kino or Catechu, or with Rhubarb and Pancreatin.

It is useful in sub-acute gastritis, gastralgia, pyrosis and allied stomachic diseases, irritation of the intestinal and urethral mucus membranes, Diarrhoea, Dysentery, Leucorrhoea, Gonorrhoea, etc. It is suggested to use egg albumen mixed with Bismuth Cream for injection in catarrhal conditions.

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Genito-Urinary and Rectal Surgery.

BY DYER F. TALLEY, A. M., M. D.

Professor *Materia Medica* and *Therapeutics* and Lecturer on Genito-Urinary Surgery, Birmingham Medical College.

Fistula in Ano.*

Owing to its peculiar position and function, the rectum is extremely prone to disorders of various kinds and degrees. Fistula is rather common as one of these affections, and may be found in subjects at any period of life, from infancy to extreme old age. It consists of a sinus lined with granulation tissue and is situated in or near the wall of the lower part of the rectum. When an abscess forms in the anal region and is opened or ruptures externally a sinus is often left which does not heal, or sometimes recurs after complete closure, and this forms a blind external fistula. When the rectum has been burrowed through beginning with ulceration of the mucous membrane or where a peri-rectal abscess has ruptured into the bowel we have a blind internal fistula formed. When the fistula communicates with the bowel and opens externally it is called a complete fistula. Very rarely we find a complete internal fistula, this being one which opens through the bowel rather high up runs down outside the rectum then enters it again. *Fistulæ* may be further classified into anal and rectal, depending on their point of entrance to the bowel, the former being those that open just inside the orifice the latter those that pierce the rectum above the sphincters. It appears that abscesses in the region of the anus or rectum are the most frequent causes of *fistulæ*; they are also due to infection of the peri-rectal tissues through rectal ulcers. They may be caused by injury to the rectum due to foreign bodies. Necrosis of the pelvic bones may be the starting point of the trouble. They may be caused in children by worms in the lower bowel. Some authors believe that exposure to cold and damp may be the exciting cause of fistula by first producing an ischio-rectal abscess, however, this theory is hardly tenable since there must be some infection introduced to cause an abscess. It is a well known fact that *fistulæ* are rather common in tubercular subjects which is due, no doubt, to the breaking down of tubercular deposits in or near the rectum. Anal fissure may cause a small dorsal fistula, and I will report two cases of this kind, seen at St. Mark's Hospital in London. Mr. G. B. consulted Mr. Edwards for symptoms of fissure, which were great pain during and after defecation which he had suffered for about one year. This patient said he had been treated for piles. Examination revealed a well-

* Read before Medical Association of Alabama, April 18, 1900, by Dyer F. Talley, M.D.

marked fissure with internal and external tabs, on pressure over the latter a drop of pus was seen to exude from under it which indicated the existence of a sinus or fistula. The operation for fissure and fistula was performed in the usual way and patient made a rapid recovery.

G. P., aged 59, had suffered for two months with great pain during and for two hours after defecation. In a month or six weeks after this commenced to notice a discharge from the bowel. On examination a well-marked fissure was seen with a small fistula extending outwards from it and opening through the skin towards the coccyx. Mr. Cooper operated for fistula in the usual manner and patient recovered. The account of the symptoms shows that the fissure formed first and subsequently gave rise to the burrowing which caused the fistula. Fistula is rare in children, but has been seen in the rectal clinics of London. A male child, one year old, was admitted to St. Mark's with a small fistula on the right side. His mother stated that she had noticed it shortly after its birth, and it had been discharging ever since. This little fellow was subjected to an operation and made a good recovery.

As we would naturally expect most fistulæ are preceded by abscess or the symptoms of ulceration of the rectum. In some cases, especially those of a tubercular nature the symptoms are light and after slight pain and swelling the skin gives way and a thin purulent fluid escapes. These abscesses are usually found on one side of the anus and in some cases they form a large and extremely painful mass. They may open externally in more than one place and in some cases the whole buttock and perineum are riddled with openings. The skin between the openings is usually discolored and unhealthy. Multiple internal openings are not so frequently found and only exist when there is ulceration of the bowel as the cause of the fistulæ. The internal opening is usually within one inch of the anus and is found very frequently in the median line dorsally. Mr. Goodsall, one of the attending rectal surgeons at St. Mark's Hospital, taught me an important point which aids very materially in finding the internal opening of a fistula. The point he makes is that there is usually a definite relation existing between the external and internal openings, that is all external openings posterior to a plane drawn transversely through the center of the anus have their internal opening in the median line posteriorly so that the sinus takes a tortuous or curved course and that all openings anterior to this plane have their internal openings in the bowel immediately opposite the external orifice and on the same side of the bowel, so that the sinus is comparatively straight. After he spoke to me of this relationship between the external and internal orifices, I noticed closely for it in his operations, and those of the other rectal surgeons and found it practically true. It is of especial service in finding the internal open-

ing in a recent fistula where there is not sufficient evidence by digital examination to trace the course of the sinus. In an old case where the walls of the fistula have become contracted and hard the finger can trace its course very readily as it feels like a whip-cord under the mucous membrane. The sinus between the bowel and the skin does not always constitute the whole of the fistulous track as it may have numerous branches and extend above the internal openings. The worst form of fistula with which we have to deal is the horse-shoe variety where we have several external openings on each side of the anus and the fistulæ join at the median line posteriorly. The external openings are sometimes quite a distance from the anus and the surrounding tissues extensively undermined. The abscess which causes this form of fistula begins at the lower and posterior part of the rectum and instead of bursting through it burrows around the bowel escapes from under the muscles and breaks through on both sides. The discharge from fistulous openings is usually scant, but it often chafes the surrounding skin and causes a great deal of annoyance and discomfort. There is very little pain connected with a fistula as long as it remains open and allows the discharge to escape enough to allow the escape freely. These tracks are rarely large enough to allow the escape of fecal matter through them. Mr. Edwards once saw a case in which a polypoid growth with a long pedicle had escaped through fistulous track which was unusually large, the growth could be shoved back through the track into the rectum. It is not uncommon to find debris and a lot of hair in these tracks.

There is usually little trouble in diagnosing fistula, with the exception of the blind internal variety which in many instances is hard to find. In making an examination the patient should be placed on the affected side in Sims' position, the anal and peri-anal tissues should be palpated with the index finger to discover any unnatural condition, such as induration attended with pain on pressure. In this way the blind extremity of a blind internal fistula may be found and by opening it externally a complete fistula is formed. In the complete and blind external varieties a probe is introduced and pushed carefully along the track in this way the course is generally found with little trouble. When the internal opening can not be found by palpation and the probe, a colored fluid may be forcibly injected through the external opening and while the rectum is held open with a speculum the fluid may be seen coming through the internal opening.

When this is discovered the probe is acutely bent and introduced and the track explored.

As a rule instruments are entirely unnecessary in the diagnosis of fistula. The condition may be discovered by inspection or palpation

and nothing further is necessary until patient is anæsthetized for the operation, when all of the complications of the fistula may be learned. It is much more agreeable to a patient to have no instruments used during the examination.

The English surgeons have quite a convenient method of indicating the position of a fistula or any lesion in the anus or lower rectum by comparing the anus to a clock dial and making the posterior median line correspond with 12 o'clock, then the anterior median line is 6 o'clock; now the intermediate hours will indicate very accurately the position of any lesion. The posterior median line is called 12 o'clock because these examinations are so often made with patient in the knee-chest position. There are several reasons for a fistula having no tendency to heal spontaneously. First, on account of the pus that forms in the sinus which destroys any granulation which attempt to spring up and close the track, then liability of getting some foreign material in the sinus such as hair and fecal matter. The most important reason, however, is the fact that the necessary rest for healing cannot be had where the sphincter muscle is constantly contracting and relaxing. So that the indications in treatment are to put this muscle at complete rest and lay the sinus open so that no pus nor foreign matter will be retained, then the granulations will fill the wound and the sinus will become obliterated. Most patients who apply for treatment want to be cured without an operation, and too many physicians, in order to make themselves agreeable, are willing to offer some hopes of a cure without the knife. The result is that the patient, after some months treatment, becomes discouraged and loses confidence in the doctor's treatment; at the same time the physician tires of the case and loses interest in it because he sees his treatment is accomplishing nothing. So when a patient with fistula applies for treatment it is best for both patient and physician for the latter to explain the absolute necessity for an operation and not be overcome by the entreaties of the patient for a cure without it. It is also important to insist on an early operation as the fistula may ramify and become much worse in the course of a few weeks or months. This is especially to be feared in the complete and blind internal varieties. To prepare a patient for operation he should have a dose of calomel two nights before, a dose of salts the next morning and be confined to a liquid diet the day before the operation. He should take no nourishment on the morning of the operation and should have a copious antiseptic enema of boric acid solution. In operating a general anæsthetic is necessary except in very superficial and short sinuses where infiltration solution or a weak solution of cocain may be injected and the tissues divided. In this country the patient is placed on a table in the lithotomy position, but a more convenient one used by the surgeons in

London is to place them on one side upon a high table. The knees are drawn up and the buttocks placed on the edge or slightly overhanging the side of the table. When the fistula is on one side the patient is placed on that side. The parts around the anus should be shaved and thoroughly scrubbed with soap and water then rinsed off with solution of carbolic acid. A probe-pointed director is now inserted into the fistula and carefully passed up to the internal opening, and if the latter be not too high up after the director passes through it the end should be pulled out through the anus, then the tissue over the director is divided with a sharp bistoury. The granulation tissue in the track should now be removed with a sharp curette. If the fistulous track be much indurated and drawn the posterior wall should be freely incised. The overlapping edges of skin and mucous membrane are now removed with scissors.

When the internal opening is more than an inch up the bowel it is hard to pull the end of the director out through the anus and where it cannot be done the probedirector is passed through the fistula into the bowel and the tissues over it divided with scissors. An error often made in doing this operation consists in pushing the probe through the wall of the fistula and leaving part of the fistulous track; this can be avoided by care and patience in introducing the director. There is a difference of opinion as to the best method of dealing with sinuses extending above the internal opening, some of these tracks are merely submucous while others are outside the muscular layers of the bowel. The submucous sinuses should be laid open, but the deeper ones should be left where it would be necessary to cut the internal sphincter in laying them open. Where both the sphincters are cut there is considerable danger of fecal incontinence resulting.

In operating on a blind external fistula a place can usually be found where there is only a thin layer of tissue between the finger in the bowel and the point of the probe in the fistula, the probe director is pushed through at this point and the overlying tissue incised.

The treatment of a blind internal fistula is not so simple. If there be an indurated mass in the anal region it should be cut into then a probe is introduced and may pass on into the rectum, in this case the operation is completed in the usual way. Where no external opening is made it is necessary to find the internal opening and introduce a bent probe upon which the intervening tissue is divided. In these operations for fistula we seldom have alarming hemorrhage—when a vessel large enough to spurt is cut it should be twisted or ligated. When there is considerable general oozing a vulcanite tube wrapped with gauze may be introduced which will exert sufficient pressure to stop the hemorrhage.

After the operation the incision should be packed with sterilized gauze and a sterile dressing held over the anus by a T bandage. The gauze in the wound should be removed on the third day and the wound irrigated and a hot carbonized solution then packed again with gauze, this should be done daily until it heals. If the wound prove sluggish and granulations do not spring up some stimulating dressing, such as the balsam and oil dressing may be employed. The bowels should be kept gently open and the dressings changed after each motion. Patient should be kept in bed until wound has entirely healed unless he be a tubercular subject and need exercise and fresh air. Usually the wound heals in about three weeks, however where deep cuts are necessary, and where the fistula is complicated it may require several months for healing. Occasionally a fistula will pass through the fibres of the sphincter muscle and when the overlying fibres are cut the wound will fail to heal on account of the contraction of the remaining fibres, in this case the muscle should be cut entirely through and put at rest. Before operating on a horse-shoe fistula it should be thoroughly explored, and its conformation well understood. Unless this be done the condition may be mistaken for two or more distinct fistulæ and if the operation be done with this impression the sphincter will be cut in several places and patient will probably suffer fecal incontinence. If the fistula can be treated with one incision of the muscle at a right angle to its fibres there will be little risk of incontinence.

This form of fistula usually has its internal opening in the median line posteriorly. The operation is done by introducing the probedirector into this internal opening and incising back to where the fistula branches, then the director is introduced into the external openings and passed to the posterior incision and the tissues over it divided, by this means the sphincter muscle is cut at one point only and its fibres divided squarely across. If the two external openings are far back enough for a straight line between them to pass behind the sphincter muscle this sinus may be opened first and the dorsal incision into the bowel can be made from the transverse incision. Where the overhanging edges of skin are unhealthy they should be cut away with scissors. In all cases where the skin flap prevents free drainage it should be cut away. In a simple fistula with a small amount of pyogenic membrane the fistulous track may be cut entirely out and the wound stitched up just as in repairing the perineum, but this should not be done except where a perfectly clean wound can be gotten. In operating on tubercular subjects the sphincter muscle should be avoided if possible and the patient should not be kept in bed but a few days if he is able to be up and get out into the fresh air. These cases also require constitutional treatment. They should have plenty of easily digested, nutritious food as well as constitutional remedies to strengthen them.

Gynecology and Abdominal Surgery.

IN CHARGE OF

W. E. B. DAVIS, M.D.,

Professor of Gynecology and Abdominal Surgery, Birmingham Medical College.

Appendicitis in the Female.

J. Bland Sutton states that appendicitis is three times as frequent in males as in females. In woman appendicitis is of especial interest on account of its close relations to the pelvic organs, especially the ovary. The normal position of the ovary is at the brim of the pelvis, at a position midway between the sacro-iliac joint and the symphysis pubis. It is a well-ascertained fact that the vermiform appendix not infrequently leans over the brim of the pelvis in the situation occupied by the right ovary. In such circumstances it would follow that a seriously inflamed appendix might become adherent to the ovary. On the other hand, an inflamed ovary or Fallopian tube might involve the vermiform appendix. As a matter of fact, these complications occasionally arise and give origin to clinical signs which make it difficult to decide whether the patient is suffering from appendicitis or ovarian trouble.

The appendix when hanging free at the pelvic brim occasionally becomes adherent to the stump of an ovariectomy or oöphorectomy. The relation of the appendix to ovarian tumors is also of great importance, especially when many adhesions are present, as it is apt to be mistaken for one of these, particularly when it is chronically inflamed and divided. In a certain proportion of cases the adhesions are caused by an acute or chronic appendicitis.

Acute pelvic suppuration set up by leakage of infective material from the right Fallopian tube is very apt to simulate acute perforative appendicitis. On two occasions the author has made this mistake and operated for appendicitis; in both cases he was able to remove both tubes through the appendicitis wound. In the puerperal woman an attack of acute appendicitis may simulate pelvic cellulitis. It is exceedingly rare that pus from an appendicular abscess makes its way between the broad ligaments. Appendicitis, as already mentioned, may simulate many intra-abdominal affections, but there is a variety which, so far as Bland Sutton knows, has not been adequately considered, in which the infection assumes the form of a cellulitis and embeds the cecum, vermiform appendix and adjacent organs in such a firm inflammatory mass as to suggest carcinoma of the cecum. A careful study of appendicitis in women demonstrates that the clinical aspects of this disease are even more protean than in men. In those

women vaguely classed as hysterical, neurotic, or neurasthenic, who complain of indefinite pain in the pelvis, often ascribed to ovarian trouble, the source of the misery is, in a fair proportion of instances, chronic appendicitis.—Clin. Journal.

Trigeminal Neuralgia.

Pain may arise from irritative disturbance at any point in the course of a sensory nerve between the cerebral cortex and the periphery, and the exciting cause may be of most varied character—inflammatory, degenerative, toxic, organic, structural. The treatment must necessarily vary accordingly. To functional disturbances we shall make no reference further than to express the opinion that derangement of function always depends on, or at least is associated with, physical alteration of structure, although this may be of such an impalpable nature as to be beyond our present powers of observation. It is probable that under these conditions the alterations that take place may be looked upon as of a nutritional, chemical or toxic origin. These considerations are of importance in connection with the treatment of the group of disorders known as neuralgias, and than which no more painful affection exists.

At the recent joint meeting of the College of Physicians of Philadelphia and the Philadelphia Neurological Society, the subject of "The Fifth Nerve in Its Surgical and Neurological Aspects" was taken up for consideration by eminent authorities, and a number of important facts brought out. Among other things, the first American case of tumor of the Gasserian ganglion and the third in the literature was reported, the new growth being an endothelioma. The patient survived two severe operations, but unfortunately obtained no relief, and in view of the nature and extent of the lesion recurrence is almost certain. In the next place a new operation for the removal of the ganglion was described, which commends itself for its simplicity, its bloodliness, its ease of execution and its effectiveness. This consists in resection of the zygoma, turning back of the temporal muscle, trephining of the temporal bone, retraction of the middle meningeal artery, and exposure and removal of the ganglion, without the necessity of entering the meningeal cavity. The operation has already been performed successfully in four cases that were reported.

The discussion failed, however, to settle conclusively the ultimate pathology of tic douloureux and no evidence was put forth to show that the disease may not be due to disease of the cortico-medullary neuron. The tendency for the pain to return after removal of the nerve-trunk or even of the ganglion, and to appear in a second nerve after one previously affected has been resected would seem to indicate that, in some cases at least, the source

of pain is beyond the ganglion. Of the utility of operation, peripheral or central, sufficient evidence was afforded, but no assurance of success can be predicated in advance of the operation. As in other matters, time alone is here the final arbiter. The suggestion that instead of removing the ganglion division of the root of the sensory portion of the nerve, between the pons and the ganglion, should be practiced, is worthy of serious consideration.—The Jour. Am. Med. Asso.

NATURE'S NEEDS.

A brief consideration of what may be termed the physiology of disease will throw much light on the subject of the needs of nature in the period following the subsidence of the symptoms.

Symptoms may be said to be intensified physiological functions accentuated to such an extent as to constitute abnormalities. This is true of fever, pain and the whole host of symptoms ascribable to special organs and tissues. Emaciation and nervous exhaustion ensue because the processes of disease, requiring as they do fuel for increased oxidation, deplete the patient of nervous force and tissue structure. Nature's method of repairing waste—by food—is prevented, because the digestive organs share in the general enfeeblement consequent upon disease. The patient has neither the inclination to eat or the physical powers necessary to digest and assimilate food.

It is in just this class of cases that the restorative effects of Gray's Glycerine Tonic Comp. are most pronounced. Because of its alterative, tonic action upon the gastric mucous membrane, it takes hold of the dormant, torpid nutritive functions and stimulates them to normal physiologic activity. Appetite is engendered, atonicity of the digestive functions is abolished, and the patient is able to eat, digest and assimilate a sufficient amount of food to replace waste of tissue, impoverishment of blood and depletion of nervous force. It thus duplicates and reinforces Nature's recuperative powers; hence the value of Gray's Glycerine Tonic Comp. in convalescence from la grippe, typhoid fever, malaria, pneumonia, etc. It can always be relied upon to effect the desired results in all forms of anæmia.—The Purdue Frederick Co., 15 Murray Street, New York.

W. Irving Hyslop, M.D., 4408 Chestnut St., W. Philadelphia, Pa., says: I have used *Celerina* quite largely both in private and hospital practice, and with gratifying results. It is void of repugnant taste and is readily retained by the stomach. My experience with *Celerina* has been confined chiefly to its use in nervous diseases, particularly loss of nerve power, and the opium habit, in which conditions it has served me well, and I shall continue to prescribe it both in private and hospital practice.

Society Reports.

NEW YORK ACADEMY OF MEDICINE—SECTION ON ORTHOPAEDIC SURGERY.

Meeting of March 16, 1900.

LENGTHENING THE TENDO ACHILLIS.

Dr. R. A. Hibbs presented five patients affected with talipes equinovarus, the result of infantile paralysis, on whom he had performed a new operation, as follows: The tendo Achillis having been exposed by a parallel incision 1 1-2 inches in length, made to its outer side, it was cut transversely within 1-2 inch of its insertion, through two-thirds of its substance and with the turned knife it was then split upward a certain distance. A quarter of an inch above the end of the longitudinal cut another transverse cut was made from the opposite side through two-thirds of the substance of the tendon and the knife being turned the tendon was again split to within 1-4 inch of the first transverse incision. Thus the tendon was severed in such a manner as to secure its lengthening and at the same time to preserve its continuity. In figure 1 the first transverse cut would be from E to C, the first longitudinal



from C to D, the second transverse from G to B, and the second longitudinal from B to A. When traction was applied lengthening would occur as shown in figure 2 and it would be equal to the sum of the 2 longitudinal cuts minus the sum of the two laps of 1-4 inch each. In figure 1 if C D is 1-2 inch, B A 1-2 inch, A to E C 1-4 inch, and D to G B 1-4 inch, then the lengthening would be (1-2 inch plus 1-2 inch) minus 1-4 inch plus 1-4 inch, or 1 inch minus 1-2 inch, or 1-2 inch. It was a matter of choice whether the longitudinal or the transverse cuts were made first, but it was important that the skin incision should be to the outer side of the tendon in order to prevent the scar from falling directly over the tendon which might be rubbed by the shoe. Dr. Hibbs had learned since operating by this method that it had been practiced in a case of traumatic equinus by Sporan, a Dane (Hospitals-tidende, 3rd series, Vol. IX, No. 50, 1891).

Case 1. In a girl 8 years old, a short tendo Achillis had prevented flexion of the right foot within 10 degrees from a right angle. It was lengthened by this method on Sept. 22, 1899, and the foot was fixed at a right angle. In two weeks slight voluntary motion was allowed and the muscle received daily exercise with some resistance from the at-

tendant. After 1-2 inch lengthening had been secured there was positive resistance to any further flexion of the foot than was allowed by the lengthening. The child walked with strong control of the os calcis.

Case 2. In a girl 12 years old flexion of the left foot was impossible within 15 degrees from a right angle. The tendon was lengthened three-fourths of an inch on July 6, 1899. With suitable after treatment the result was an excellent position of the foot, with strong action of the muscles of the calf.

Case 3. In a girl 14 years old flexion of the right foot was prevented within 10 degrees from a right angle. The tendon was lengthened one and one-fourth inches on June 16, 1899; an unusual amount in order to relieve extreme valgus, with resulting good control of the os calcis. As the valgus was recurring, a tendon grafting would be done.

Case 4. In a girl 8 years old the left foot was inflexible within 45 degrees from a right angle, appearing to be almost in a straight line with the leg. The tendon was lengthened one and three-fourth inches on June 16, 1899, and the foot fixed at a right angle. It was believed that an ordinary tenotomy would have been followed by loss of usefulness of the calf muscles. It was seen, however, that this action was excellent.

Case 5. In a girl 14 years old the right foot had been inflexible within 15 degrees from the right angle and the tendon was lengthened three-fourths of an inch on June 16, 1899, and the foot fixed at 90 degrees. The muscle and tendon showed enough strength to sustain the weight of the body on tip-toe, and this had been true of all the cases presented. In no case had an effort been made to correct the equinus beyond a right angle. Further correction might be desirable in congenital, but not in acquired equinus.

That the strength of a tendon lengthened in this way was not seriously impaired was proved by the observation that in every case there had been resistance to the carrying of the flexion beyond the limit allowed by the operation and also by the ability of the muscle and tendon to sustain the body on tiptoe. The process of repair had been rapidly completed after operation by this method, which presented obvious advantages over those in which sutures were applied to the tendon. But the greatest advantage had been found in the readiness and certainty with which the desired amount of lengthening could be exactly secured.

A perfect gait required the "spring" or elastic quality imparted by the muscles which enabled the anterior part of the foot to sustain the weight of the body in walking. Without this power the gait would be that of one who had a wooden foot or a foot affected with talipes calcaneus. In equinus following infantile paralysis it was probable

that the muscles were more shortened than the tendon, and, as lengthening the muscle was generally impossible, operative relief had to be sought by lengthening the tendon. In operating, however, it was important on the one hand to avoid leaving the tendon so long as to impair the action of the muscle, and on the other hand to avoid leaving it so short that the equinus would not be sufficiently overcome. This method enabled the operator to maintain exactly the proper relation between the length of the tendon and that of the muscle. By subcutaneous tenotomy the equinus was readily corrected, but in many cases the result was a serious defect in the gait from undue lengthening of the tendon and resulting shortening and inefficiency of the muscle.

Dr. A. M. Phelps said that it was immaterial whether a muscle was operating at its full length, or whether the same amount of muscle tissues was operating at a shorter leverage. The power was precisely the same, as instanced by putting your arm nearly straight or flexing it. So long as the amount of muscle cells remained, the power was the same. Open incisions for primary operations on the tendons should be avoided and in the ordinary subcutaneous operation on the tendo Achillis should be made too long if possible by overcorrecting, the normal process of repair being relied on to fill in the space between the ends and to secure an accurate and efficient adjustment of the relative lengths of the structures. He had repeatedly seen four inches replaced after division of the tendo Achillis and perfect function of the muscle restored.

Dr. Hibbs said that an alteration in the relative length of the muscle and its tendon modified the effect of muscular contraction. If the tendo Achillis was lengthened, the contractile power of the muscle cells might remain, but the extent to which the os calcis could be raised by the contraction of the muscle would be lessened. If the muscles of the calf could not momentarily sustain the weight of the body on tiptoe in the act of walking, they were not of great use.

Dr. H. L. Taylor said the fear of impairment of function after ordinary tetomy properly done and followed up was unnecessary. It was formerly the custom after division of the tendon to put the foot up in the deformed position and to correct the deformity at subsequent sittings. Correcting the deformity immediately after the operation was attended with good results. It was possible to elongate the tendon too much, but such cases were rare. He had been looking for years for a case of ununited tendon after tenotomy, but had not found one. The exact amount of correction would vary with the kind of case. It was a matter of judgment. The results in the patients shown were admirable.

Dr. H. Gibney said that he had seen one or two adults in whom the tendons had failed to unite. He could see no advantage in the new operation over the ordinary subcutaneous method after which many cases acquired a length of two and a half inches. The result shown, however, were excellent and would be better still after tenderness and an indisposition to voluntary motion had worn off.

Dr. J. P. Fiske said that the results shown were good, and that the details of the new operation were very interesting. It was, however, a departure from the rule of simplicity which characterized the old operation which, almost without exception, gave results which left nothing to be desired.

Dr. A. B. Judson admired the mechanical ingenuity displayed in the operation. A short tendo Achillis produced no deformity and did not interfere with the normal gait, excepting in cases in which the tendon was extremely short. Normal flexion of the ankle might be said to be about 40 degrees within a right angle, but with 10 degrees the gait was normal in appearance and ability, and the patient experienced no inconvenience, even when assuming the unusual position of squatting. In measuring the equinus it was desirable to have the leg flexed on the thigh in order to relax the gastrocnemii which had their origin in the femur. The foot being held flexed manually, so far as it could be done painlessly, one arm of the goniometer might be made parallel with the crest of the tibia and the other parallel with the inferior surfaces of the os calcis and the head of the first metatarsal bone. The degrees could then be read on the scale. In the use of the club-foot brace for congenital equino-varus setting the up-right backward from a right angle lengthened the tendo Achillis which was contrary to what might have been expected. The object of setting it backward was to increase the leverage applied for the reduction of the varus. Lengthening of the tendon followed this adjustment in every case.

Dr. Taylor had a few years ago offered an explanation of this action of the clubfoot brace by the theory that, as the inner border of the tendo Achillis was shorter than the outer border, when the foot was rotated outward by the brace the inner border was first put on the stretch and gave way, fibre after fibre, thus unexpectedly lengthening the whole tendon.

Dr. Hibbs said that he had operated in this manner on upwards of twenty patients, but those presented had been the only ones in whom sufficient time had elapsed to make the presentation useful. It was vastly more important to preserve the action of the muscles than to relieve the deformity which was generally not serious, and in some cases absent,

CAUTION REGARDING HEROIN.

The April Druggists' Circular and Chemical Gazette says in substance: Under the above heading, we mentioned in our March issue two cases in which persistent vomiting followed the use of this drug, in one of which a fatal termination was at least partly chargeable to this action. These cases, as we stated in our note, were reported by Dr. Thomson in the New York Medical Journal. This report has brought to the Journal from Dr. Wm. J. Robinson, a statement of two cases in his own practice, of a similar nature. Dr. Robinson suggests that there is a possibility that heroin which is diacetyl-morphine, may in such cases have become transformed into apomorphine or some similar body. Dr. Manges calls attention in the same journal to a statement of his in a report on a study of heroin, that "vomiting might occur after its use." He makes it a rule to tell patients that when vomiting does occur to discontinue the drug. The doses given in the case that ended fatally he thinks were excessive. These new statements add further proof to the uncertain action of the drug; and we think that it is quite plain that it needs more watching than opiates in general. The untoward and even serious after-effects of heroin bring forcibly to mind the many excellent and time-tried remedial qualities of codeine—always safe, always certain and uniform. The combination of codeine with antikamnia presents a most desirable mode of obtaining the full value of these two excellent remedies, and there is no better form in which to exhibit them than in the well-known antikamnia and codeine tablets, each containing four and three-fourths grains antikamnia and one-fourth grain codeine.

VAGINAL DOUCHING.

In Gould's Year Book of Medicine and Surgery for 1900, Byron Robinson, M. D., of Chicago, Ill., in advocating the use of Vaginal Douching says that when properly used it is capable of doing a vast amount of good, but much depends upon the amount of the fluid, the degree of heat, etc. He advises a fountain syringe with a four-foot lead and holding at least four gallons and at a temperature of 103 degrees fahrenheit, and increased until as hot as can be borne. Begin with three quarts and increase one pint a day until four gallons are taken. He also advises that some astringent preparation should be used to check waste of secretions. For this purpose Micaiah's medicated uterine wafers are especially useful. They are astringent in action, thus contracting the tissues and vessels and check waste of secretions. They prevent reaction after douching and stimulate the mucous membranes. They are antiseptic and should always be used in connection with the vaginal douche for the above reasons.

NEURASTHENIA.

Tired brains, nervous exhaustion, headache, neuralgia, palpitation, restless nights, depression of spirits, are Nature's cry for help.

Overwork, worry, mother's nursing, dyspepsia, improper food, poor blood, bad air, loss of sleep, and lack of exercise -- are the causes.

SCOTT'S EMULSION,

rest, change, good food, and pure air,

ARE THE REMEDIES.

Brain vigor, steady nerves, happy sleep, bright eyes, elastic step, strong muscles, good appetite, good blood and plenty of it, abounding health and strength

ARE THE RESULTS.

Hypophosphites for brain, bone and nerve,

Cod Liver Oil for flesh, blood, fat and muscle,

Glycerine for digestion and assimilation,

ARE THE CONSTITUENTS

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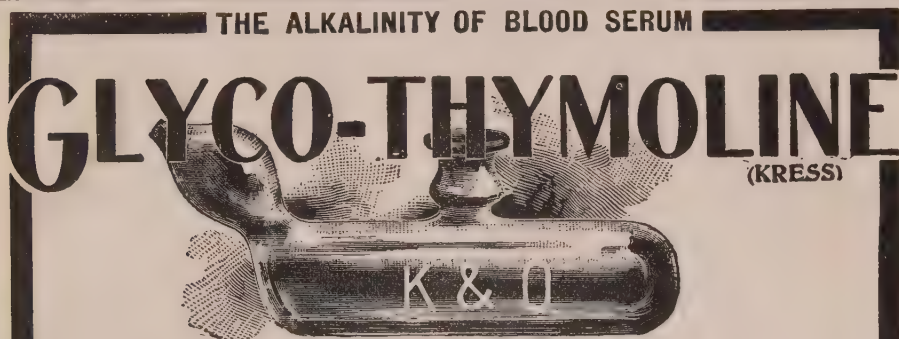
GREAT FOOD MEDICINE.

N. B. - There is but one kind of Scott's Emulsion. It contains and always has contained the best Lofoten Cod Liver Oil, C. P. Glycerine, and C. F. Hypophosphites. NO SUGAR.

In prescribing simply specify **SCOTT'S EMULSION.**

SCOTT & BOWNE,

CHEMISTS, NEW YORK.



Birmingham Nasal Douche.

A PURGATIVE *For Mucous Membrane*

INDICATED IN ALL CATARRHAL CONDITIONS, ESPECIALLY

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Selected Articles.

MUSCULAR RHEUMATISM: ITS ETIOLOGY AND DIAGNOSTIC RELATIONSHIP WITH APPENDICITIS.

BY EUGENE C. UNDERWOOD, M.D.,

LOUISVILLE, KY.

Surgeon B. & O. S. W. Railway, K. & I. B., Etc.

Though various theories have been advanced concerning the nature of the lesions underlying the manifestations of muscular rheumatism, none of them have yet succeeded in obtaining universal assent. There are even some authorities who believe that no structural lesion exists, but that the pain, which is so prominent a symptom, is merely the expression of some functional disturbance due primarily to cold, dampness, etc.

It is fast becoming the opinion, however, of those who have made a special study of the subject, that a lesion does exist, and that the pathological condition is analogous to certain other forms of rheumatic inflammations—such, for instance, as occur in septicæmia and syphilis. In other words, it is believed that there is a distinct interstitial myositis, due to the presence in the connective tissues, between the muscular fibres, of some foreign or extraneous substance—in most cases merely a cellular infiltration, not affecting the muscle fibres themselves, but mechanically pushing them apart.

This infiltration may consist of various substances; e. g., of leucocytes (and eventually proliferation of connective tissue cells), or of toxins from various bacteria, or, lastly, of uric acid salts. Attempts have been made to isolate a specific micro-organism as the etiologic factor in the case, but, unfortunately, different investigators discover different bacilli; and, then, too, as is well known, myositis is often a sequel to such widely different infectious diseases as scarlet fever, gonorrhœa, etc. The point to be considered, therefore, would seem to be that an infiltration does exist, no matter from what particular bacterium or cause.

Though the lesions may, in certain cases, as just described, consist of organized material, it is, probably, in the majority of cases, inorganic in nature, composed of salts precipitated from the blood into the interstitial tissues, to be from time to time reabsorbed, thus giving rise to disturbances intermittent in character. The question may arise, however, as to the cause of this deposition, as well as to the etiological connection existing between it and dampness and cold, the latter being, as is well known, the principal exciting factor in rheumatism.

The following clinical facts are important and must have some bearing on the subject under consideration. It is well understood that rheumatism is often the result of chilling the entire surface of the body by exposure to cold and dampness. It is also well known that decreased alkalinity of the blood plasma favors the deposition of uric acid salts in the connective tissues of the body. The significance of these two statements will at once be seen. As a result of exposure to cold, the normal acid secretion of the skin is suppressed, and as the acid which was formerly eliminated is thus retained in the circulation, the alkalescence of the blood is necessarily diminished. Reduced alkalinity of the blood plasma may also follow the ingestion of foods containing a high percentage of acid, or the absorption of the products of acid fermentation in the gastro-intestinal tract. This latter would explain why rheumatism is aggravated, and often times ushered in through indulgences in certain kinds of food. Subalkalinity of the blood, too, means diminished oxidation and, consequently, retarded nutrition, both of which are favorable to the formation of uric acid in the body, as well as to the growth of pathogenic micro-organisms.

If it be true, then, that an infiltration of the intestinal tissue between the muscle fibres actually exists, it would seem probable that some swelling should be discovered by carefully palpating the muscle affected. And such indeed is the case. Opoltzer, Ewer and Lacquer have repeatedly called attention to the fact that minute circumscribed patches of swelling could at times be felt in rheumatic muscles; while such expert masseurs as Meltzer, Helleday and Schreiber have also directed attention to these conditions. It is evident that a delicate touch is required, as well as wide experience in this particular work. It must, however, be borne in mind that the infiltration is not necessarily located in the spot to which the patient refers his pain, but frequently at some portion of the nerve trunk of which this is the terminal distribution.

These infiltrations may, of course, affect any striated muscle of the body, and are often found in the abdominal muscles, giving rise to symptoms simulating cholecystitis, intestinal colic, appendicitis, etc.,—particularly the latter, if occurring in the internal obliquus on the right side. It is often an extremely difficult matter, observes Professor Adler (Cf. New York Medical Record, March, 1900), "to distinguish between an incipient appendicitis and a rheumatic affection of the deep muscles and fasciæ—especially when located in the region of the right iliac fossa." "The occurrence of this class of cases," continues he, "is by no means generally appreciated, and indeed the very possibility of rheumatic myositis in the abdominal

muscles is not taken into account by the majority of practitioners." In conclusion he says: "Not a few cases have been diagnosticated as appendicitis, and not a few perfectly normal appendices have been removed, when the actual lesion was merely abdominal rheumatic myositis." That appendicitis has only in recent years become so popular a complaint, would seem to give additional force to the foregoing statement.

Among many similar cases which have occurred under the observation of the writer, we cite the following to illustrate some of the points above referred to.

In October, 1899, a consultation with a brother practitioner was held, to consider the advisability of an operation for appendicitis in the case of a woman, aged 45, who had complained for a week or more of circumscribed pain over the appendix, which was gradually getting worse. The other symptoms in the case were not well marked. She had a slight fever, however (temperature 101), and complained of sleeplessness, constipation and loss of appetite. The subjective pain was localized in the right iliac fossa directly over the appendix, though pressure there would cause it to radiate upward and forward nearly as high as the epigastrium. The patient was extremely nervous, having become imbued with the idea that she had finally become a victim of the dread malady she had so long feared. Her treatment had consisted of cold applications to the abdominal wall, rest in bed, diet, and opium internally to relieve the pain.

Examination failed to reveal any enlargement of the liver, and percussion there was not painful. Analysis of the urine, however, revealed biliary elements and uric acid crystals in abundance. Questioning, too, elicited the fact that the patient had previously suffered from two attacks of "stiff neck," as well as a lame shoulder. Feeling certain that the diagnosis of appendicitis was a mistake, the treatment was now entirely changed, the patient being put at once upon the anti-uric acid treatment for rheumatism. Thialion was administered in teaspoonful doses, every two hours, the first day, until a free bilious passage from the bowels was affected. Thereafter, a teaspoonful was given in a glass of hot water every morning upon rising, and an anti-nitrogenous diet ordered.

The improvement was marked from the outset. The patient's appetite was restored, she became less nervous and slept better at night. The pain, too, gradually abated, and at the end of a fortnight had disappeared almost entirely, the woman having resumed her accustomed household duties and abandoning the idea of appendicitis altogether.

Other cases have been seen by the writer wherein the symptoms

at first pointed strongly towards appendicitis, the patients themselves fearing that disease. But every case of this kind has been speedily relieved by appropriate anti-uric acid treatment of the character above described. Accounts of similar cases, in the practice of other physicians, might probably be multiplied almost indefinitely. In the words of Professor Adler, "Examples might be adduced in which myositis of the abdominal recti simulated peritonitis or intestinal colic, or when myositis of the quadratus and obliqui was diagnosticated as renal colic, but perhaps this will suffice to show that rheumatism of the abdominal muscles must be taken into consideration as among the possibilities in all cases of painful abdominal affections in which the diagnosis is at all doubtful."

INFANTILE DIARRHEA.

Dr. D. E. Smith, of Minneapolis (Northwestern Lancet, November 15, 1899) states that in cases of diarrhea characterized by copious serous discharges it is necessary to resort to some astringent which should be antiseptic and not absorbed to any extent. Tannic acid was the drug par excellence, but it has been dismissed by the profession on account of its unpalatability, its bulk, its taste, its rapid absorption in the upper intestinal tract, and its rapid decomposition. Recently a chemical combination of 87 per cent. tannic acid and hexamethylenetetramine has been introduced under the name of tannopine, which the author considers an ideal remedy in this class of cases. It is given in small doses from three to ten grains every three hours. It does not break up until it comes in contact with the alkaline medium of the lower intestine, when the tannic acid is freed and the hexamethylenetetramine liberates the most desirable of antiseptics, formalin. Children take tannopine readily as it is tasteless and small in bulk. It may be given either on the tongue or in any kind of nourishment. The formalin destroys the germs already attenuated by previous treatment. As soon as the serous discharge is stopped there is an immediate improvement in the patient's condition.

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R. L. Polk & Co., Detroit, Mich., Publishers of Polk's Medical and Surgical Register of the United States and Canada, request that all practicing physicians notify them of removals, new comers, deaths, physicians retiring from practice, new medical societies, hospitals, asylums, sanitariums, and mineral springs in their vicinity. This information will materially aid in revising the Medical and Surgical Register.



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JNO. C. LeGRANDE, M. D., *Editor*

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THE ALABAMA MEDICAL JOURNAL, Birmingham, Ala.

Change in Name Only.

With this issue it will be observed that we make a change in the name of this journal. We have had this under contemplation for three years. We make this change in deference to the expressed wishes of a number of our friends.

"The Alabama Medical Journal" is short, and expresses without prefixes just what the Journal is, viz., a journal for and by the doctors of the State of Alabama.

For twelve years we have been publishing this journal, and by the liberal support accorded to it by subscribers and advertisers, we can claim for the journal that it has been a success in a material sense. The literary or scientific part must speak for itself. We begin the publication of the journal under the new name, under the most flattering auspices, and no means or effort will be spared on the part of the editor to make this journal as good as any in the South, and our best efforts will continue to be given in the special interest of the doctors and the medical profession of the State of Alabama.

The Medical Association of the State of Alabama— Session of 1900.

[The following report of the meeting of the Medical Association of the State of Alabama held in the city of Montgomery, April 17-21, 1900, and made to the Jefferson County Medical Society by Dr. Wilder has been handed to us for publication in the Journal. Dr. Wilder covers, in a condensed way, all of the special points of interest in the proceedings of the meeting, and we take special pleasure in publishing his report.—Editor.]

Birmingham, Ala., April 23, 1900.

Mr. President and Gentlemen of the Jefferson County Medical Society:—As one of your delegates to the State Medical Association, custom in our county society, compels me to render you a report at this meeting. Unfortunately I was absent from the first day's sessions and did not hear the opening exercises which consisted of welcome addresses on the part of Dr. J. L. Gaston, President Montgomery County Medical Society, and Hon. E. B. Joseph, Mayor of Montgomery, the annual message of the president, Dr. J. C. LeGrand, and the reports of the other officers and committees of the association.

Quite a party of us left Birmingham on Wednesday morning on the early train and reached Montgomery at 9 o'clock, just in time to get full benefit of the excellent papers and discussions at the morning session; and just here, gentlemen, let me say that the general character of the papers read at this meeting of the association seemed to be better than at former meetings, and nearly all of them were well and distinctly read, easily heard and greatly enjoyed. It would be an invidious distinction to name any particular papers as being superior to others. However, I am sure that it cannot be improper for me to call attention to the three papers read by non-residents of this State. The first of these was "A Plea for the Radical Operation for Hernia," by Dr. W. F. Westmoreland, of Atlanta, Ga.; the second was "Tonsillitis," by Dr. Abrahams, of New York, and the third was "Appendicitis and Its Technique," by Dr. Samuel Lloyd, of New York. All of these were full, comprehensive and instructive papers.

It was very much regretted that Dr. William Osler, of Baltimore, who was on the programme to deliver the Jerome Cochran lecture, was prevented from attending the meeting of the association on account of sickness.

The discussions of papers this year was better than on former years, every one who desired had an opportunity to enter into these discussions, and quite a large number did so—thus making the papers more enjoyable to every one.

The social entertainment far surpassed anything your delegate has ever witnessed at any of our former meetings. The committee of arrangements were untiring in their efforts to make every one have a good time. Dr. Glenn Andrews was chairman of this committee. About 5 o'clock on the second day he announced to the association that the management of the Montgomery Brewery had extended to all the members a cordial invitation to visit that establishment, soon some one summed up enough courage to move an adjournment, a suppressed smile passed around the audience, after which a weak second to the motion was made; but the president very properly ruled that the second came too late to be entertained, so he called for the next paper. However, those who desired to do so quietly left the hall and entered hacks provided by the committee to take them to the Brewery where it is said, they enjoyed both the nice lunch and the cool beverage.

The evening session was called to order in the new auditorium where quite a large and cultured audience of ladies and gentlemen were entertained by sweet music, both vocal and instrumental, after which the Monitor's address was read by Dr. Sholl, the author of the address, Dr. G. T. McWhorter, being unavoidably detained at home on account of sickness in his family.

Dr. Rhett Goode was next introduced and delivered the annual oration. After a beautiful prelude, he announced as his subject, "Quarantine," which he handled in a learned and masterful manner.

The association then adjourned to an elegant reception in the Commercial Industrial Association Club rooms, tendered by the Montgomery County Medical Society. The conventional punch and light refreshments were served and all who attended passed quite a pleasant hour in social converse.

The regular programme was taken up next morning at nine, and after a four hours' session, the association, with several of the Capital City's best citizens, got aboard a special L. & N. R. R. train provided by the committee for an outing at Jackson Lake; there a most elegant spread, consisting of barbecued meats, fine fresh fish and nearly everything else good to eat, was served in the greatest abundance, and very much enjoyed by all. The ever vigilant committee did not fail to provide liquid nourishment of every kind for all those whose digestion and appetite called for such. This, gentlemen, was the most elegant affair I have ever seen at the meetings of the association.

We were taken back to the city in good time for the evening session, when reading and discussion of papers was resumed and the entire programme completed before adjournment. The next morning (Friday) the general business of the association was taken up, and as all of this had been mapped out by the board of censors it was promptly

passed; nothing brought forth any discussion until the resolution sent up by this society to change the method of examining candidates for license to practice medicine was reached.

This resolution was presented by your delegate as best he could, and received considerable discussion, and while many members seemed to favor the idea of a state board, the impression seemed to prevail that it would be a precarious business to attempt such a change at present, as it would have to come up before the legislature, and in attempting to improve on our law, that body might give us a worse one; consequently your resolution did not pass.

Dr. R. M. Cunningham was elected the next president, and made a beautiful speech on being installed. Selma was chosen as the next place of meeting, and thus closed the most pleasant and profitable session ever attended by your delegate, and every one returned home feeling benefitted and happy for having attended the meeting.

Yours truly,

W. H. Wilder.

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J. S. TYREE, Washington, D. C.

Miscellaneous Notes.

The Memphis Lancet is numbered with the things of the past, and is no more, having consolidated with the Memphis Medical Monthly.

Dr. T. W. Ayers, of Anniston, has returned from New York, where he has been for several weeks taking a course at the New York Post-Graduate Medical School and Hospital.

THE BEST.

A member of the State Medical Association, who has been a regular attendant for a number of years, writes us under date of April 23, 1900, as follows:

J. C. LeGrand, M. D.

Dear Doctor: I wish to congratulate you on having presided over the most successful and harmonious meeting of the M. A. S. A. that I have ever attended. Friction, politics, anarchy and nihilism were conspicuous by their absence. Harmony and good will were prominent all through the session, and in talking with many who were in attendance, I learned that the desire of most of them was for peace and good will. I think that the session of 1900 marks a "red letter day" in our history. * * * *

Notwithstanding the large number of Hypophosphites on the market, it is quite difficult to obtain a uniform and reliable Syrup. "Robinson's" is a highly elegant preparation and possesses an advantage over some others, in that it holds the various salts, including Iron, Quinine, and strychnine, etc., in perfect solution, and is not liable to the formation of fungous growths.

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**MONTGOMERY
and BIRMINGHAM.**

We call attention to the Chattanooga Medical College's announcement in this issue of the Journal.

The Association of Surgeons of the Southern Railway Company was held in Charleston, S. C., May 11th and 12th. The program handed to us by Dr. George H. Stubbs shows that a good number of papers on important subjects were read and discussed at the meeting.

CAUSES, DIAGNOSIS AND TREATMENT OF CYSTITIS.

In the Medical News of April 7, 1900, appears a complete and comprehensive article with above title by Dr. Ramon Guiteras, a recognized authority on diseases of the genito-urinary tract. We reprint herewith portion of this paper on "Treatment of Cystitis Due to Tuberculosis."

"In the treatment of tubercular cystitis, the practitioner encounters a condition that taxes all the resources at his command and he errs, as a rule, on the side of too much, rather than too little, treatment. In other words, it often happens that the more you treat the patient locally for his cystitis, the worse the condition becomes. It is, therefore, necessary to proceed cautiously in the treatment of this form of bladder inflammation, and, above all, is it important to improve the general condition of the patient as much as possible. If we were to treat patients suffering from tubercular cystitis along the same lines as pulmonary casase, namely, by sending them away to lead an open-air life under conditions that would improve their nutrition to the utmost, the condition would be much more rapidly improved or cured than by anything that could be done by the ablest specialist of the period.

Numerous remedies have been recommended by different authorities for the treatment of this form of cystitis, and naturally every practitioner who encounters this rebellious trouble grasps at anything that offers the probability of a cure. Guyon at one time advocated the use of intravesical injections of bichloride of mercury, 1 to 10,000 and since then many have been following his advice, but such a solution will rarely cure this disease, while it usually produces an irritation that is almost unbearable.

Nitrate of silver and permanganate of potassium have the same effect. Boric acid and boro-glycerine irritate less, but do not seem to possess the power to ameliorate the disease. Recently iodoform injections have been advocated, and the procedure would seem to be founded on a logical basis. Three or four ounces of a five per cent,

solution of iodoform in liquid vaseline are injected into the bladder every two or three days, the patient being instructed to watch the stream when he urinates and stop the flow just as soon as the oil appears. This forms a permanent iodoform dressing of the bladder-wall, and in the hands of some of the French surgeons is said to have met with gratifying results.

Personally, I have had better results with borolyptol in this class of cases than with any other remedy which I have employed. This seems to have a powerful germicidal effect, while the fact that it does not irritate the bladder renders it pleasant to the patient. It is used in the strength of from 1 in 8 to 1 in 16 in irrigations by the hydrostatic method. After a few irrigations at the office, the patient will be able to use it every night at home. I have one patient now under observation who suffered for a number of years from a most aggravating frequency of urination accompanied by pain, dependent upon a tubercular cystitis. Under this treatment the urine has cleared up, the tubercle bacilli have disappeared and the patient can hold his urine from seven to nine hours at night and from four to six hours during the day.

Internally in connection with any local treatment, an antispasmodic and internal antiseptic should be used as a palliative measure; it is wonderful how much relief may be given to the patient by this means, even although pus remains in the urine and the tubercle bacilli still be found. One patient has been coming to me for three months who was entirely relieved of his disagreeable subjective symptoms by a mixture containing 10 minims of the tincture of belladonna, 15 grains of benzoate of soda, and oil of gaultheria up to one drachm, t. i. d., although not until he was put on the borolyptol irrigation did the pus and tubercle bacilli in the urine diminish to any marked degree. The effect of the palliative internal medication is worthy of notice, in view of the fact that he had suffered for fourteen years and had been under the care of many different physicians without relief, having most probably been over-treated by too much instrumentation and too frequent or too irritating irrigations."

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